

## Black Bear Ecology

### Life Systems – Habitats and Communities *A Guide for Grade 4 Teachers*





## Introduction

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### **Welcome to *Black Bear Ecology, Life Systems – Habitats and Communities*, a Guide for Grade 4 Teachers.**

With a focus on the fascinating world of black bears, this program provides teachers with a classroom ready resource. Linked to the current Science and Technology curriculum (Life Systems strand), the *Black Bear Ecology* Guide for teachers includes:

- background readings on habitats, ecosystems and the species within; food chains and food webs; black bear habitat needs, adaptations and ecology and bear-human interactions;
- unit at a glance;
- five lesson plans and suggested activities;
- resources including a glossary; list of books and web sites and information sheets about black bears.

At the back of this booklet, you will find a compact disk. It includes in Portable Document Format (PDF) the English and French versions of this Grade 4 unit; the Grades 2 and 7 units; the information sheets and the *Are You Bear Wise?* eBook (2005).

This program aims to generate awareness about black bears – their biological needs; their behaviour and how human action influences bears. It is an initiative of the Ontario Ministry of Natural Resources.



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Also available online at: [ontario.ca/bearwise](http://ontario.ca/bearwise)

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Cette publication est également disponible  
en français.



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## Black Bear Ecology Background Readings:

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**The following background information will help teachers to prepare for and deliver lessons one to five of the Black Bear Ecology education program.**

### Habitats, Ecosystems and the Species within:

(Reading to assist with delivering lessons 1 and 2)

Simply put, a habitat is the area in which a species lives. It is where an animal or plant lives – its home. It is a place in which organisms, including humans, find everything they need to survive. Habitat must include four very important things: food/energy, living space, shelter and water. These are all necessary for organisms to live and reproduce.

Different life forms have different habitat needs and those needs can be very different from species to species. For example, plants need sunlight for their energy, while animals need food. Some organisms like fish need lots of water to survive, whereas others like birds and black bears need significantly smaller amounts. An organism's needs may also differ at various stages of their lives and during different times of the year. For example, a bear cub's needs are very different than those of its mother. The cub's main needs are shelter and protection. The mother's most important need is food.

All organisms need their own space. These spaces (habitats) can be very small, very large, or anywhere between. For instance, plants generally need little space. Comparatively, animals like wolves need a lot of space. Their habitat is therefore huge.

Wild animals and plants need shelter to protect them from the weather and from other animals. Humans have homes to protect them from the elements. The types of shelter needed by living beings can be very different. Some species may need only one tree, while others might need an entire forest. Some creatures like the beaver even make their own shelter out of materials they find in their habitat. Another habitat need is that of reproduction. To reproduce, a species needs other members of its kind in its habitat.

Since different animals need different things to survive, they have different habitats. For instance fish live in the water or in what is known as an aquatic habitat. Fish find everything they need to survive in the water: food, shelter, space and of course water. Species that live in aquatic environments are adapted for living under water. They have fins, scaled skin and gills.

Terrestrial animals find everything they need on the land. Bears and wolves, for instance, find their food, shelter, space and water on land.

Other species, like ducks and beavers, live at the edge of the terrestrial and aquatic environments. They use both environments to meet all of their habitat needs.

Not all living things have different habitat needs. In fact most species actually share many of their specific needs with other species. Habitats can overlap. Many different species may find most of the things they need to survive in one place. For example plants and animals in a forest all share the same habitat because the forest is providing them with all their habitat needs.

### Community and ecosystems

The group of plants and animals that live in a habitat is called a community. A community of living and non-living things (like air, rock, soil and water) forms an ecosystem.

Ecosystems are made up of several plant and animal species that are linked together in how they interact with the physical environment and one another. An ecosystem can be as large as a lake or a forest or as small as one tree or a pond. Ecosystems exist where a group of living beings are found interacting with each other and the physical environment.



## Niches, Consumers and Producers

Ecosystems and communities contain plants and animals that have different roles. There are many roles an organism can have in the ecosystem. One example of a role or function in a community is to provide food for other species. Many living creatures are food for others. All animals, including humans, need energy to survive and they get energy from the food they eat.

Animals must eat other living things to get the energy they need to survive. They are therefore called consumers. All animals are consumers. There are three different types of consumers: herbivores, carnivores and omnivores.

Herbivores only eat plants. Deer, moose and Canada geese are some examples of herbivores. Carnivores eat other animals. Wolves, hawks and weasels are some examples of carnivores. Omnivores, the third type of consumer, eat both plants and animals to get energy. Black bears, squirrels, raccoons and humans are examples of omnivores.

Plants are very different from animals. They do not eat other living things. Instead, they produce their own food. They do this by using the energy from the sun to turn water and carbon dioxide from the air into the food they need. Plants are therefore called producers.

Another role species play is that of providing shelter or living space. For animals in an ecosystem, many plants serve as their shelter and living space. Small rodents like mice, for example, can hide away from predators in grass.

Trees provide shelter or protection for many different species. Song birds use trees to hide their nests and for protection from the wind. Bear cubs also use trees for protection. When scared or threatened, cubs will often climb the nearest tree and stay there until their mother returns.

Trees also provide living space for a variety of species. Song birds, squirrels and chipmunks will use different areas of the same tree. In this case one tree provides living space for several

different animals. Animals can even provide shelter and living space for other animals. For example, the holes woodpeckers make and the ponds beavers create provide shelter and space for countless other animals.

## Food Chains and Food Webs: Transfer of Energy across an Ecosystem (Reading to assist with delivering lesson 3)

One of the most common ways species interact within an ecosystem is through the transfer of energy. When a plant or animal is eaten, the energy from that animal or plant becomes energy for the consumer.

The passing of energy from plant to herbivore to carnivore or omnivore is called a food chain. Food chains are the transfer of energy between at least two organisms. Two examples of food chains are a black bear eating blueberries and a black bear eating a moose which has eaten twigs of trees.

Most animals and plants are eaten by more than one predator and most animals eat more than one type of food; therefore, a few species can make many different food chains. When all the different food chains in an ecosystem are put together, this forms a food web. Food webs can show how two species, that do not even eat one another, interact with each other.

## Black Bear Habitat Needs, Adaptations and Ecology (Reading to assist with delivering lesson 4)

Each animal or plant is suited for its specific habitat. An adaptation is a certain feature, behaviour or appearance an animal or plant has that helps them to survive in a certain biome or its habitat.

The black bear's natural foods are only available in the late spring, summer and early fall. Black bears hibernate from the late fall through to early spring.

Bears are built to find and eat a wide variety of food. They have a very powerful sense of smell. They are curious and smart. They are able to



travel long distances. They have powerful claws and they use them to climb trees, and to tear food. From year to year, bears go to the same food sources, and teach their young where to find food. Even if food disappears, bears will return to investigate. Their natural preference is to find lots of food that will help them fatten up fast. Their preference is for nuts, berries and grasses. They will also eat carrion (dead animals), livestock, and moose or deer calves when berries and nuts are not available. Black bears are omnivorous; however they depend mostly on foods that come from plants.

Bears will eat human generated garbage, and have learned to associate humans with other sources of food. These sources are not natural, and need to be controlled by humans if we are to be safe, and keep black bears wild and in the forest where they prefer to be.

Included with this kit are a number of additional resources on Black Bears. This information is included in the Resources Section of this document. The Are You Bear Wise eBook also gives an in-depth look at bear ecology and behaviour. It is included on the Compact Disk included with this kit. You can also download it from [ontario.ca/bearwise](http://ontario.ca/bearwise).

## Bear-Human Interactions

(Reading to assist with delivering lesson 5)

When you are at the cottage, at home, camping, or out for a walk and you see a bear, you might feel as though the bear has entered your habitat. It is important to remember that bears and humans often share habitats. People like the forest, being near or on water and in places where there are fewer people. So do bears.

A bear's survival is strongly linked to its ability to find and consume great quantities of natural foods (like berries, acorns and beech nuts) in a short period of time. These foods are typically found in forested areas.

More and more humans are camping, fishing and hiking. Humans undertake work activities like farming, mining and forestry. Humans are also building homes, cottages and developing areas that are in or near prime bear habitat.

Humans share their environment with all other living things like bears. We all rely on our habitat to meet our basic needs. It is important to keep in mind that human action can either positively or negatively affect habitat and everything that lives in it.

This is especially true when it comes to black bears. They have a biological need to consume great quantities of food in relatively little time. Their survival and ability to have and raise young depends on it. The availability of their natural food varies from abundant, to normal, to poor. When natural food sources are poor, black bears will travel long distances to find another food source. Though they prefer natural foods, they will eat just about anything people will eat to survive.

Bears' need for food is so great that they will investigate smells like grease and food residue left on a barbecue. Bird food, garbage, pet food and agricultural crops all provide an easy meal for bears. Bears will eat garbage. This is neither natural nor desirable. However, their biological instinct to survive drives bears to these human-caused unnatural food sources, especially in years when their natural foods are poor. This results in human-bear conflicts. In one way or another, human-bear conflicts are the result of human action or inaction.

People can change. Bears cannot. Therefore, it is people who must take responsible action to make sure that unnatural food sources are not accessible to bears. The safety of people and the lives of bears depend on it.

**Please refer to the Resources Section of this document for more information about black bears, how to prevent human-bear interactions and what to do during a bear encounter.**



## Black Bear Ecology Unit – Grade 4

### Unit at a glance

#### Lesson 1

**Topic:** Niches

**Duration:** 1-2 periods

**B:** Game: Habitat Breakdown; link community with energy transfer

**M:** : Activities 1A and 1B

**C:** Class Discussion about energy and day's topic

**Materials:** Black board or handouts, ribbon or tissue paper, Activities 1A and 1B

#### Lesson 2

**Topic:** Habitats

**Duration:** 1-2 periods

**B:** Discussion about habitats

**M:** Activity: Design Your Own Ecosystem

**C:** Present and display finished habitats on bulletin board

**Materials:** Chart paper or black board, activity 2A, crayons/coloured pencils

#### Lesson 3

**Topic:** Food Chains and Food Webs

**Duration:** 1-2 periods

**B:** Game: Food Web Follies

**M:** Discussion: Food Chains and Food Webs. Activity: Design Your Own Food Web

**C:** Display finished food webs on bulletin board

**Materials:** Lots of room, yarn, species name tags, activity 3A, construction paper, coloured pencils, scissors, glue

#### Lesson 4

**Topic:** Black Bear Case Study

**Duration:** 3-5 periods

**B:** Introduce the Black Bear

**M:** Research: Research questions about black bears

**C:** Presentations of black bear research

**Materials:** Black bear resources, computer access, chart paper, coloured markers, question list

#### Lesson 5

**Topic:** Living with Black Bears

**Duration:** 1-2 periods

**B:** Discussion. Why do black bears come into "our" habitat?

**M:** Role Play: Black bear safety

**C:** Summary of black bear safety

**Materials:** Bear Wise information sheets, room to act out skits, activity 4A



## Black Bear Ecology

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**Lesson:** One

**Duration:** One to two periods

**Lesson Topic:** Niches – Roles within the ecosystem

**Background Reading:** Habitats, Ecosystems and the Species Within

**Expectations:**

■ **Enduring Understanding:**

- ☐ What are the different functions/roles of animals and plants within an ecosystem?
- ☐ How do different species provide habitat needs for other species?
- ☐ How can one species play more than one function/role in the ecosystem?
- ☐ How can two species play similar roles within an ecosystem?

■ **Curricular Expectations:**

- ☐ Classify organisms according to their role/niche (producer, consumer, herbivore, carnivore, omnivore) in a food chain.
- ☐ Demonstrate an understanding of a food chain as a system in which energy from the sun is transferred eventually to animals, and classify animals as omnivore, carnivore, and herbivore.

**Learning Materials:** Activity 1A

- ☐ Black board or handouts      ☐ Activity Sheet 1A      ☐ Activity Sheet 1B
- ☐ Coloured ribbon or tissue paper – for a class of 20 students and to complete three rounds:
  - Green: Shelter – 35
  - Blue: Water – 35
  - Yellow: Food/Energy – 70
  - Brown: Space – 105

**Lesson Sequence:**

■ **Beginning:**

**Review of habitats and habitat needs**

**Habitat Breakdown Game:**

- ☐ Ask students to imagine themselves as animals in the wild. In order to survive, each student must find suitable habitats which contain the necessary components.
- ☐ Colour-coded habitat components will be hidden throughout the classroom. Students must find a specific number of each habitat components in order to survive to the next round.
- ☐ Component ribbons or paper are coded as follows: Green=Shelter, Blue=Water, Yellow=Food/Energy, Brown=Space.
- ☐ In one minute intervals, each student must find:
  - One shelter
  - One space
  - Two energy
  - Three water



- ☐ Based on a class size of 20, and after the first round, all will find what they need. After the second round, half will be eliminated. After the third round, five will remain.
- ☐ The activity should continue for a total of three rounds, the remaining students (those who are able to find what they need) will be declared survivors.
- ☐ This game demonstrates how habitats must contain all components. It also shows how missing just one or two of the components can result in the death of an animal.

#### **Introduction of link between habitat components and species' roles within an ecosystem.**

- ☐ Species in an ecosystem can supply other species with habitat needs.
  - Certain species act as food for other species:
    - producers (plants) act as food for herbivores
    - herbivores are food for carnivores
    - some species eat both plants and animals (omnivores).
  - Several species create shelter for other species:
    - trees in the forest provide shelter for a variety of species
    - grasses protect small animals from potential predators.
  - Some species provide space for other species:
    - trees provide the space needs for many nesting birds as well as mammals like squirrels and chipmunks
    - animals such as woodpeckers and beavers make living space for other species
    - black bears help to spread seeds of plants through ingestion and defecation.

#### **■ Middle:**

##### **What's my Role in the Ecosystem? Activity Sheet 1A**

- ☐ Students will be asked to complete the assigned worksheet by determining which habitat components and roles different plants and animals play/are in the ecosystem. **See Activity 1A example.**

##### **Where does my Energy Come From? Activity Sheet 1B**

- ☐ Students will be required to complete the worksheet by deciding where certain species get their energy. Students will be required to draw one or two energy sources for the species on the left. **See Activity 1B example.**
- ☐ If students are not sure about where certain species obtain energy, they can consult other students or resources such as the internet or classroom books.

#### **■ Closure:**

- ☐ The worksheets may be taken up as a class. Any confusion or misunderstanding can be discussed and resolved. During this time students can be questioned about particular organisms. For example: Why do grasses provide shelter and food whereas a mouse only provides food? Why do wolves eat only meat and bears eat both meat and plants? Why are carnivores and herbivores considered consumers, and plants considered producers?
- ☐ If time permits, the habitat breakdown game can be played a second time.





■ **Checks for understanding:**

- The questions outlined above in the closure portion of the lesson may also be asked while students are working on the worksheets. These questions require the students to make links on their own in order to answer correctly. This requires a good understanding of the material.

### Evaluation of Learning:

The quality of answers given by students can be graded. Participation marks could also be assigned for those students who participate and add their thoughts to discussions.

Marks from worksheet graded in class may also be recorded as a means of evaluation.

**Teacher Reflections:**

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There is no handwriting or other markings on the page.





## Activity Sheet 1A

# What's My Role in the Ecosystem?

Fill out the worksheet by determining what habitat components each organism provides for other species in the ecosystem as well as what roles each species plays within the ecosystem.

*Remember:* **Habitat Components:** shelter/protection, water, space, and energy.

**Roles:** producer, consumer and herbivore, carnivore and omnivore.

Organism	Habitat Component	Role
Shrubs		
Mouse		
Grass		
Hawk		
Bear		
Moose		
Squirrel		
Lynx		
Tree		
Hare		



## Activity Sheet 1A – Example

# What's My Role in the Ecosystem?

Fill out the worksheet by determining what habitat components each organism provides for other species in the ecosystem as well as what roles each species plays within the ecosystem.

**Remember:** **Habitat Components:** shelter/protection, water, space, and energy.

**Roles:** producer, consumer and herbivore, carnivore and omnivore.

Organism	Habitat Component	Role
Shrubs	Space, Food, Shelter	Producer
Mouse	Food	Consumer & Herbivore
Grass	Space, Food, Shelter	Producer
Hawk	*	Consumer & Carnivore
Bear	*	Consumer & Omnivore
Moose	Food	Consumer & Herbivore
Squirrel	Food	Consumer & Omnivore
Lynx	*	Consumer & Carnivore
Tree	Space, Food, Shelter	Producer
Hare	Food	Consumer & Herbivore




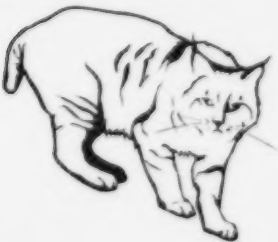
\*these organisms do not provide any of the necessary components to any other species; therefore, they could be left blank. Some students may write reproduction in these spaces as they do provide reproduction for their own species.



## Activity Sheet 1B

# Where Does My Energy Come From?

Draw an example of an energy source for each of the following organisms:



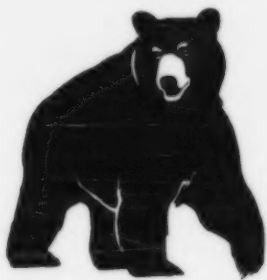



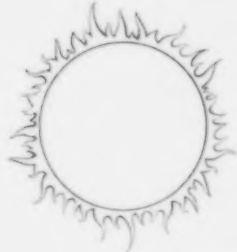
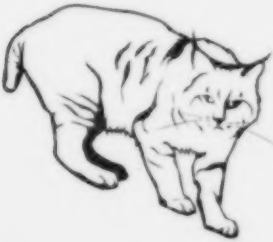

Organism	Energy Source
	
	
	
	



## Activity Sheet 1B – Example

## Where Does My Energy Come From?

Draw an example of an energy source for each of the following organisms:

Organism	Energy Source
	
	 & 
	
	



## Black Bear Ecology

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**Lesson:** Two

**Duration:** One to two periods

**Lesson Topic:** Habitats

**Background Reading:** Habitats, Ecosystems and the Species Within

**Expectations:**

■ **Enduring Understanding:**

- ☐ What is a habitat?
- ☐ What do animals need in their habitat?
- ☐ How do animals get what they need from their habitat?
- ☐ Why do different animals need different habitats?
- ☐ Why do some animals share similar habitats?

■ **Curricular Expectations:**

- ☐ Recognize that animals and plants live in specific habitats because they are dependent on those habitats and have adapted to them.
- ☐ Describe structural adaptations of plants and animals that demonstrate a response to their environment.

**Learning Materials:**

- ☐ chart paper or black board
- ☐ Activity Sheet 2A
- ☐ crayons/colouring pencils

**Lesson Sequence:**

■ **Beginning:**

**Discussion about habitats**

- ☐ Using a series of questions to guide the discussion, students will be allowed to share their own ideas and knowledge about habitats with the entire class. Student responses should be recorded on either the black board or on chart paper. Questions:
  - What do animals need to survive? (Food/energy, water, shelter and space/protection).
  - Where do they get what they need? (What parts of their habitat provide what they need? Forest = Shelter; rivers = water, etc.)
  - Do all animals need the same things? Can you think of any animals that need different things to survive? (Fish versus bird; mammal versus herbivore, versus carnivore, etc.)

**If students have difficulty with this activity, have them think about needs they have and then translate these needs into wild species.**



- Following the discussion, proper definitions and answers to questions should be provided as well as all the necessary components of habitats. The following definitions should be provided:

- Habitat, Ecosystem, Species, Adaptation, Aquatic, Terrestrial.

Answers to the following should be provided:

- What do animals need from their habitat?
- How do animals get what they need from their habitat?
- Why do certain species only use certain habitats?
- Why do some animals share similar habitats?

■ **Middle:**

**Design your own Ecosystem Activity.**

- Using the provided activity sheet (Activity 2A) students will choose an animal of their choice, preferably a wild species, and draw a map of that animal's habitat.
- Map must include all the necessary components of habitats as outlined above. Habitat components should also be labelled to simplify the comprehension of the student's ideas.
- If some students do not have sufficient knowledge about any wild species, a family pet can be used, however, this should be a last resort as the purpose of the exercise is to explore habitat needs in nature.
- As an addition to this activity, you could also have students make the animal of their choice. Using brown paper, stapler, paint and string, students can be encouraged to make an animal in the habitat. All animals can be hung in the classroom for the remainder of the unit.

■ **Closure:**

**(summary/application to other areas)**

- Upon completion, students should be urged to volunteer to share their animal habitats with the class. The class will discuss each habitat and the presence of all habitat components
- Following the presentation, all habitat maps can be placed on a bulletin board for the duration of the unit.

■ **Checks for understanding:**

- During the habitat map activity, students can be asked why they are drawing certain object. For example: Why are you drawing a tree in a robin's habitat? The explanation provided by the student will offer insight into their understanding of habitat needs.
- During the habitat map activity, a student can be asked why their animal needs one thing, but their neighbour's needs another. For example: Why does a robin need a worm for food, but a bear needs blueberries? This question allows the teacher to understand if students comprehend adaptation of animals to their habitats as well as the specific needs of certain species.
- During the optional art activity, discuss how the animal is built for its habitat.



### Evaluation of Learning:

Students will be evaluated based of their participation in the brainstorming activity. The correctness of their contributions should not be evaluated, but their willingness to share ideas should be.

Students will also be evaluated on the completion of their animal habitats and art activity. In this case, it is important that the evaluation include the accuracy of the activity. Habitat maps should be marked based on the presence of as many habitat components as possible.

**Teacher Reflections:**

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





## Activity Sheet 2A

# My \_\_\_\_\_ Habitat

Choose a species of your choice and draw its habitat. Be sure to include all the necessary habitat components.

## Habitat Components

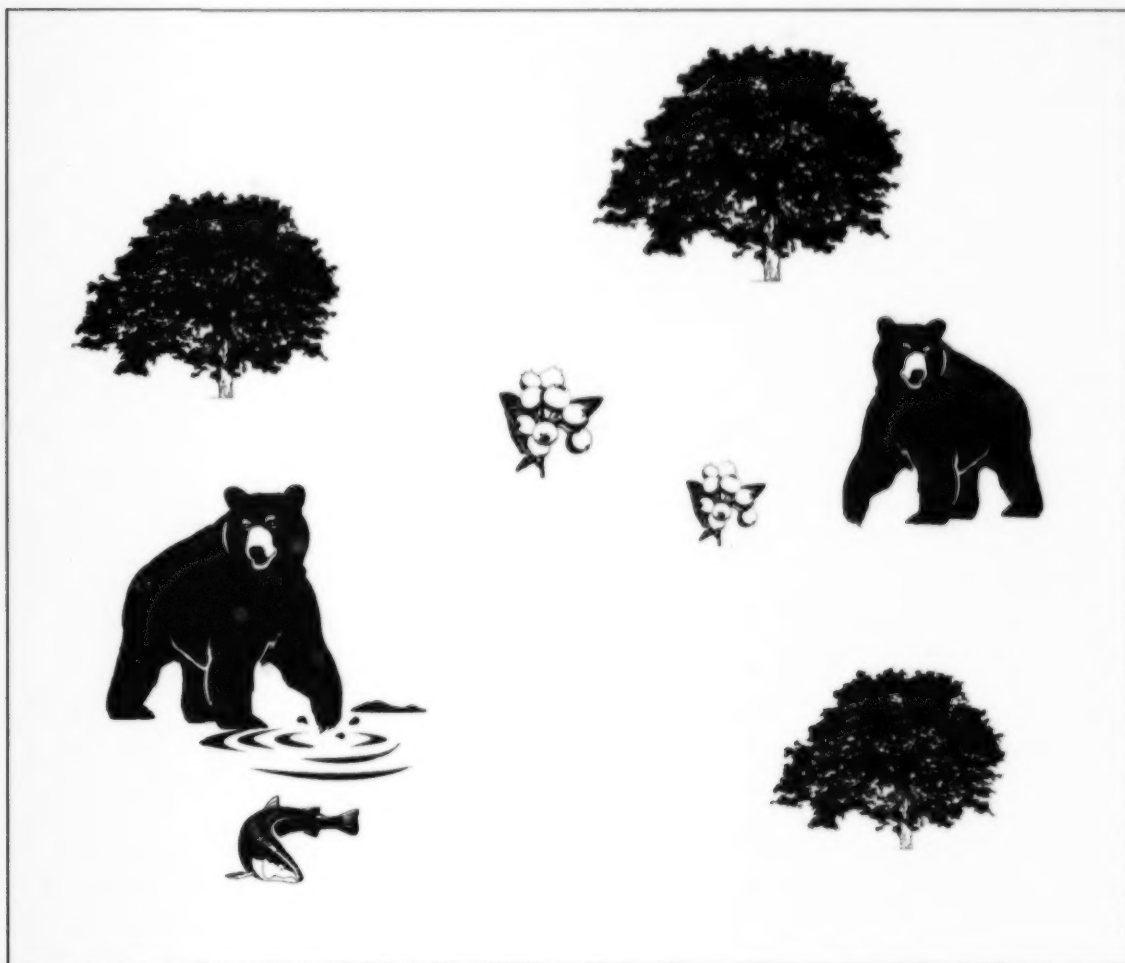
☐ Energy Source☐ Space☐ Water☐ Shelter/Protection



## Activity Sheet 2A – Example

# My Black Bear Habitat

Choose a species of your choice and draw its habitat. Be sure to include all the necessary habitat components.



## Habitat Components

☐ Energy Source☐ Space☐ Water☐ Shelter/Protection



## Black Bear Ecology

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**Lesson:** Three

**Duration:** One to three periods

**Lesson Topic:** Food Chains and Food Webs

**Background Reading:** Food Chains and Food Webs: Transfer of Energy across an Ecosystem

**Expectations:**

■ **Enduring Understanding:**

- ☐ What are the different functions/roles of animals and plants within an ecosystem?
- ☐ How do different species provide habitat needs for other species?
- ☐ One species can play more than one function/role in the ecosystem.
- ☐ How can two species play similar roles within an ecosystem?
- ☐ How is energy passed from plants to top carnivores?
- ☐ What are the differences between food chains and food webs?

■ **Curricular Expectations:**

- ☐ Classify organisms according to their role in a food chain.
- ☐ Demonstrate an understanding of a food chain as a system in which energy from the sun is transferred eventually to animals. Construct food chains of different plant and animal species and classify animals as omnivore, carnivore and herbivore.

**Learning Materials:**

- ☐ a space large enough for students to spread out in one or two circles
- ☐ ball of yarn      ☐ species name tags/necklace      ☐ activity sheet 3A
- ☐ construction paper    ☐ coloured pencils    ☐ scissors    ☐ glue

**Lesson Sequence:**

■ **Beginning:**

**Food Web Follies Game:**

- ☐ Divide the class into two groups and assign to each student a species from the list provided below. Each student should have either a name tag or necklace with their species/organism name on it. Some students will be producers; others will be consumers (herbivore, carnivore, omnivore).

Producer (Plants)	Consumer (Herbivore)	Consumer (Carnivore/Omnivore)
Blueberry Bush	Snowshoe Hare	Black Bear
Grasses	Ruffed Grouse	Wolf
Alders	Red Squirrel	Bald Eagle
Oak Tree	Deer Mouse	Lynx
Grasses	Moose	Wolf



- ☐ Have students stand in a circle.
- ☐ Starting with a producer species (for example: alder) have students pass a ball of yarn across the circle to an herbivore. The herbivore then passes the yarn to a carnivore.
- ☐ At this point in the game, a simple food chain has been created. Stop the game at this point to demonstrate what a food chain looks like.
- ☐ Once the yarn reaches a top carnivore, the yarn is passed back down to a species that the carnivore consumes (i.e.: wolf passes yarn to the moose), the herbivore then passes to a plant species which it consumes.
- ☐ The yarn should be cycled in this manner until all species are part of the food web.
- ☐ Omnivores can pass the yarn to plants or herbivores and subsequently can receive the yarn from either plants or herbivores.
- ☐ Students should be encouraged to make as many different food chains as possible in order to complete the food web. However, individual food chains should remain realistic.
- ☐ The game can be repeated. Students should attempt to create new food chains in completing the food web.

#### ■ **Middle:**

##### **Class Discussion**

- ☐ Following the completion of the food web, have students give examples of different food chains they encountered while playing the game (Grass \_ Hare \_ Lynx or Oak Tree \_ Black Bear).
- ☐ Using the examples given by students, ask them if they can tell the difference between food chains and food webs
  - Food Chain: Grass \_ Hare \_ Lynx
  - Food Web: Grass \_ Hare \_ Lynx \_ Grouse \_ Alders \_ Moose \_ Bear \_ Blueberries

##### **Activity: Design your Own Food Web**

- ☐ Using the pictures provided in activity sheet 3A, have students cut out the pictures and paste them onto the sheet titled "My Food Web" Activity 3A, or onto construction paper. Using different coloured pencils for each food chain, students can complete the food web.

#### ■ **Closure:**

- ☐ Completed food webs can be placed on a bulletin board for display.
- ☐ Prior to dismissal, inform students of the following day's activities: A Black Bear Case Study. Ask students to look for information, either online or in books at home for information concerning black bear habitat requirements (eg.: What do they eat? Where do they live? How do they reproduce? etc.).

#### ■ **Checks for understanding:**

- ☐ The ability of students to complete the Food Web Follies game will provide a good assessment of the students' understanding of the food chain – food web concept. Also, the ability of students to create diverse food chains will further demonstrate a good understanding of the concepts.
- ☐ Participation during the class discussion will also demonstrate if individual students comprehend the material



### Evaluation of Learning:

- **The Design Your Own Food Web exercise** can be evaluated for completeness as well as the number of individual food chains created and the accuracy of what students consider a food chain versus a food web. Students should be encouraged to create as many food chains as possible in order to complete the food web.
- The quality of answers given by students can be graded. Participation marks could also be assigned for those students who participate and add their thoughts to discussions.

**Teacher Reflections:**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



## Activity Sheet 3A – Pictures

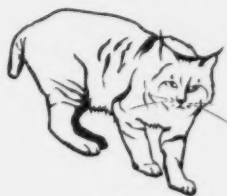
# Members of an Ecosystem

Create your own food web on the blank page provided. Cut out each species provided below and paste each one onto the page. Show each food chain by drawing lines with crayons or colouring pencils. Make sure you use a different colour for each food chain you create.

### Carnivores



Black Bear



Lynx



Bald Eagle



Wolf

### Herbivores



Red Squirrel



Deer Mouse



Moose



Snowshoe Hare



Ruffed Grouse

### Producers



Blueberries



Alders



Oak Tree



Grasses



## Activity Sheet 3A

---

# My Food Web

Create your food web here. Use different coloured crayons or pencils to show each food chain you create.

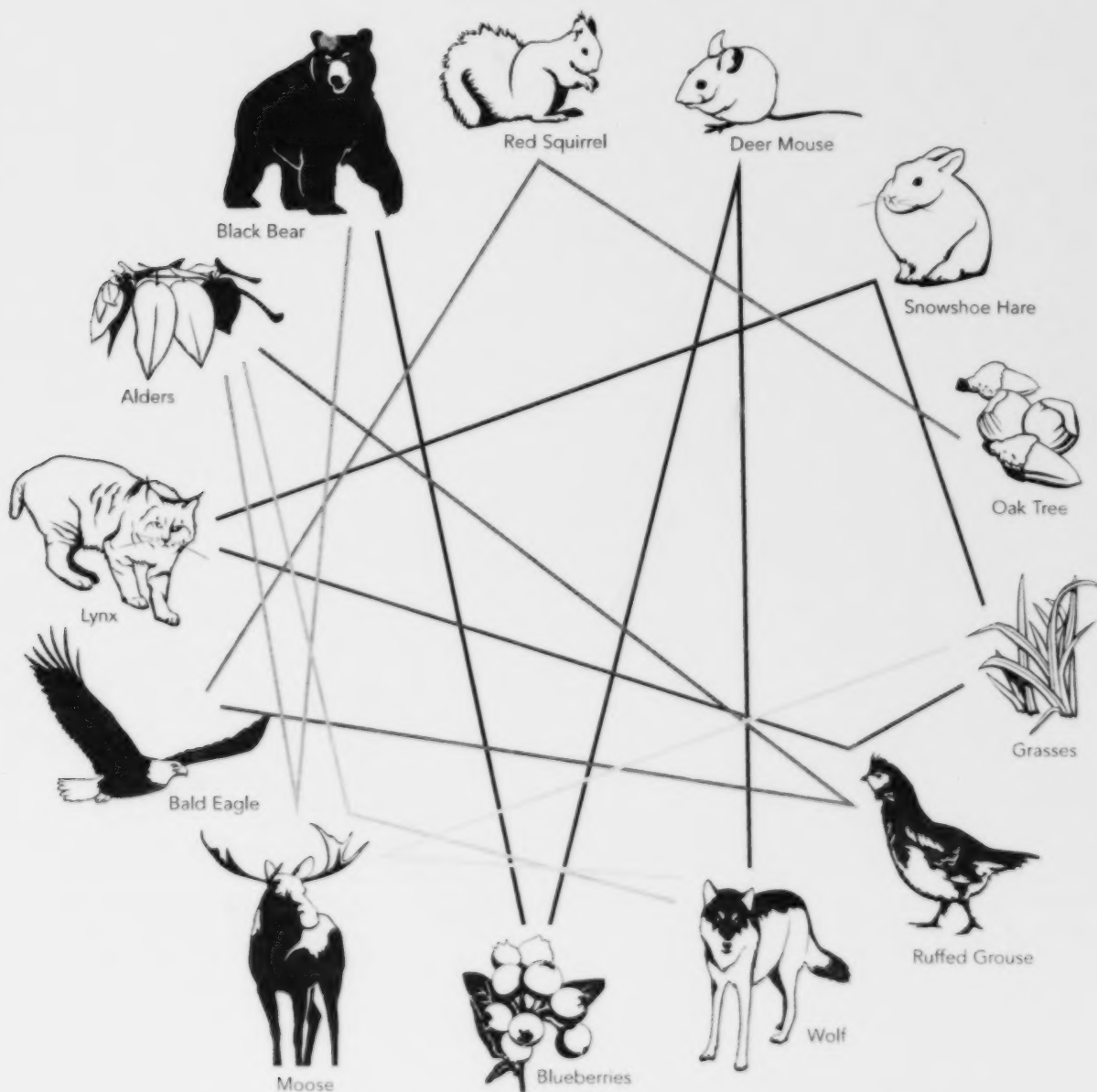




## Activity Sheet 3A – Example

# My Food Web

Create your food web here. Use different coloured crayons or pencils to show each food chain you create.





## Black Bear Ecology

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**Lesson:** Four

**Duration:** Three to five periods

**Lesson Topic:** Black Bear Case Study

**Background Reading:** Black Bear Habitat Needs and Ecology

**Expectations:**

■ *Enduring Understanding:*

- ☐ What habitat needs do black bears have?
- ☐ How do black bears meet their needs?
- ☐ What do black bears do if their needs can't be met?

■ *Curricular Expectations:*

- ☐ Recognize that animals and plants live in specific habitats because they are dependent on those habitats and have adapted to them
- ☐ Classify organisms according to their role in a food chain.
- ☐ Demonstrate an understanding of a food chain

**Learning Materials:**

- ☐ literature about black bears (see Resources Section for a list of suggestions)
- ☐ computer access with internet and/or Acrobat Reader   ☐ chart paper
- ☐ coloured markers   ☐ glue   ☐ question list

**Lesson Sequence:**

■ *Beginning:*

**Introducing the Black Bear**

- ☐ Students will be asked to tell the class any experiences that they have had with black bears.
- ☐ Following a few stories, students will be invited to share any prior knowledge they have about black bears. Knowledge should relate to habitat needs and life history of black bears. Information provided by students can be recorded on the black board for use by group later in lesson.

**■ Middle:****Black Bear Research**

- ☐ Using the internet, classroom resources, or resources from home, each group will be required to research one component of black bear biology. Each group will be responsible for one of the following components:
  - What do black bears look like (differences in size, weight, and colour)?
  - Where in Ontario are they found (distribution and size of individual range)? Where in Canada are they found?
  - What do bears eat in nature and where do they get their food? Also, how does their food change (type and amount) with the seasons?
  - What kinds of adaptations do black bears have to survive in their environment (think about appearance, movement, behavior)?
  - What do black bears do if they can't find food in the wild? What other food will they eat?
  - Why is shelter such an important habitat need for black bears? (Shelter for protection, hibernation and giving birth to cubs)
  - A year in the life of a Black Bear, seasonal changes in the life of a female black bear.

**■ Closure:****Group Presentations:**

- ☐ Groups will present their information about each component of bear biology to the class.
- ☐ Groups will use the chart paper provided to record and present the information for their presentation. Encourage students to be innovative and creative.
- ☐ Presentations can be followed by relevant questions from the class as well as the teacher.
- ☐ Students should also be encouraged to record any interesting pieces of information that they gather from the presentations in their science notebooks.

**■ Checks for understanding:**

- ☐ The ability of groups to answer relevant questions from both other students and the teacher will demonstrate whether or not the group understands the information they present.
- ☐ The ability of students in the audience to ask intelligent and relevant questions will show that they understand the information that is being presented to them.

- Students can be observed during group research and evaluated on how well they work in a group.
- Group participation during the presentation, as well as the thoroughness and accuracy of the information presented should both be evaluated.
- Individuals may also be evaluated on the basis of participation during the question answer period following each presentation.
- Students could be assigned an individual mark based on group participation in addition to a group mark for the quality of the presentation.

**Teacher Reflections:**

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## Black Bear Ecology

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**Lesson:** Five

**Duration:** One to two periods

**Lesson Topic:** Living with Black Bears

**Background Reading:** Bear-Human Interactions

**Expectations:**

■ **Enduring Understanding:**

- ☐ What causes black bears to come into "our" habitat?
- ☐ How can we keep black bears wild and prevent them from coming into school yards, neighbourhoods and campsites?
- ☐ What do you do if you see a black bear?

■ **Curricular Expectations: (Art Curriculum)**

- ☐ Enact or create, rehearse, and present drama and dance works based on novels, stories, poems, and plays.
- ☐ Demonstrate the ability to maintain concentration while in role (e.g., create tableaux in small groups, using different levels, a specific focus, facial expressions, and symbols to convey meaning)

*This lesson can be altered slightly to cover one science and one art lesson.*

**Learning Materials:**

- ☐ Activity Sheet 4A (Bear Wise Role Plays – Scenarios 1 to 3)
- ☐ Room to act out skits
- ☐ Bear Wise Fact Sheets
- ☐ Bear with Me Video (17 Minutes)
- ☐ Potential to provide props for skits

**Lesson Sequence:**

■ **Beginning:**

**Sharing habitat – humans and black bears**

- ☐ A teacher led discussion about how humans and bears share habitat. Students may be asked questions in order to encourage discussion. The following questions could be raised:
  - Where do bears find food? (Natural foods – in the forest, in the water. Unnatural foods – in landfills, in people's yards). Where do people get their food? (Grocery stores, in the water, restaurants, grow or raise their own, hunting and trapping).
  - Why is food so important to bears? (Bears must double their weight before they go back into hibernation. They have a short time to do this. It is a matter of survival. For female bears, if they do not eat enough food, they will not have cubs.)
  - What can affect the supply of natural food for bears? (Frost can damage berry crops, drought can result in berry and nut crop failures. These are very important food sources for bears.)



- What are some natural foods for bears? (Spring – dandelions; grasses; dead animals. Summer – raspberries, blueberries; cherries; apples. Fall – mountain ash, hazel nuts, beech nuts, acorns.)
- What happens if natural foods are low? (Bears are always looking for food and will travel long distances to find it. They have a powerful sense of smell, and are curious. They will eat almost anything, including garbage, bird feed. They will explore smells like grease and food residue left on barbecues in hopes of finding food. Bears prefer to forage for food in the forest. But they will not turn down an easy meal.)
- How can people help keep bears away? (People need to stop attracting bears. They should not put garbage out before garbage day. People should only feed birds during the winter months. People should not put meat or fruit in their composters and should eliminate all food and odors from their properties. Keep school yards clean. Do not throw your sandwich on the ground.)
- What different kinds of encounters can people have with bears? (The most frequent bear encounter is the one you didn't know occurred. The bear has heard or smelled you and left. Bears are timid, and generally afraid of humans. Bears are also spotted moving through an area. Bears will come onto properties to investigate smells or to eat something that is present on the property. While it is rare, bears will attack humans. You are more likely to be killed by lightning or a bee sting than a black bear.)
- What do you do if you encounter a bear? (Refer to the Resources Section)

■ **Middle:**

**Bear Wise Role Play – Bear Safety**

- Divide the class into three groups, one for each scenario (Camping, At School, and In the Neighbourhood).
- Using the provided scenarios, each group member will play a different role in a mini play (see **Activity 4A – Role plays 1 to 3**). Each scenario provides a different situation for potential bear encounters. Some students will educate the class about how to prevent bear encounters in different situations. (For example a student playing a birdfeeder will inform the class on how emptying birdfeeders in the spring help keep bears away.) Whereas others will act out a bear encounter and be required to handle the situation as outlined in the Resources Section.

■ **Closure:**

**Summary of steps to avoid black bear encounters.**

- As a group, the class will discuss how humans and bears share the same habitat. The group will also discuss the importance of food to bears, and how a lack of their natural foods can lead them to other, undesirable food sources like your garbage can.
- As a group, the entire class will discuss and review different measures that students can take in order to prevent bear encounters as well as what to do in case of a close encounter with a bear.
- The discussion can be lead by asking students questions such as: What are some potential causes for bear problems in your community? What are you going to do to prevent black bears from coming around? What would you do if you spotted a bear?



■ *Checks for understanding:*

- ☐ Following each dramatization, students can be asked why certain preventative mechanisms were taken.
- ☐ Following the presentations, students can be asked how they would react in variations of the scenarios prevented. Example: What would you do if you were walking down a nature trail one afternoon and spotted a bear on the trail? This will require the students to use the information they've gathered from the presentation in order to make a decision on how to handle the situation.

### Evaluation of Learning:

The presentations can be evaluated in two ways. First, students should be evaluated on the accuracy of the information they provide the class. If information is not accurate, then the teacher should correct the mistake in order to ensure students get the right message. Students could also be graded on their ability to stay in character and participate in the presentations.

**Teacher Reflections:**

[illegible]





## Activity Sheet 4A

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# Bear Wise Role Play

### Scenario #1: Camping

#### Part 1:

After a day of fishing in a park, you and your parents get back to the campsite and decide to cook up some fish for dinner. The fish must be cleaned and prepared over the fire. Don't forget to take the potato salad and dessert out of the cooler. After a night around the campfire, you decide to have a bedtime snack of cookies.

#### Part 2:

In the morning you wake up and decide to take a hike before packing up and heading home. You and your parents choose one of the nature trails and begin walking down it. After about five minutes of walking, you come around a corner and spot a black bear. You think the bear sees you, but the bear doesn't move toward you. What should you do?

Act out this play, but remember to be Bear Wise!!! In part 1, each student will take one role and tell their class what the importance of their role is in being Bear Wise. In part 2, students will act out the scene as indicated below.

#### **Roles:**

Narrator: Read the scenario aloud to the class.

#### Part 1:

- |                          |  |
|--------------------------|--|
| <b>Fish Guts:</b>        | Fish guts really attract bears. Always be sure to clean fish away from your campsite.  |
| <b>Cooler of Food:</b>   | Store your cooler of food away from your tent. Food can also be locked in the car or hung from a tree, but always away from the campsite and NEVER in your tent. |
| <b>Dirty Frying Pan:</b> | Thoroughly burn leftovers in fire and clean dirty dishes right away, do not leave them over night.   |
| <b>Cookies:</b>          | Don't keep or eat snacks inside your tent since even crumbs might be enough to attract a hungry bear.  |

#### Part 2:

- |                            |   |
|----------------------------|---|
| <b>Bear:</b>               | The bear spots the hikers but does not move toward them. It might get up on its hind legs to get a better look at them, but does not move toward them.  |
| <b>Mom and Dad, Child:</b> | The hikers spot the bear in the distance and stop in their tracks. They back away slowly. They DO NOT turn and run away. Once they reach the park office they should inform the park warden where the bear was sighted. |
| <b>Park Warden:</b>        | Played by the teacher.  |



## Activity Sheet 4A

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# Bear Wise Role Play

### Scenario #2: At School

#### Part 1:

It is lunch recess and you and your friends are getting ready to go outside. A couple of your friends have saved their favourite part of their lunch to bring outside. What should you do?

Once you get outside, your friend sees that somebody has thrown two apple cores and a banana peel on the ground by the basketball net. What should you do in this situation?

#### Part 2:

It is the next morning and you and your friend just get off the bus and are playing soccer in the field. You look over and spot a bear walking toward you from the bushes at the edge of the field. What do you and your friends do?

#### **Roles:**

Narrator: Read the scenario aloud to the class.

#### Part 1: Inside Class

**Friends 1, 2 and 3:** Your three friends each have a snack they want to take outside.

#### Part 1: Outside During Recess

**Friend 1:** Spots apple cores and banana peel and says that we should go throw them in the garbage inside the school.

**Friend 2:** Explains that litter in the school yard could also attract bears.

#### Part 2:

**Bear:** Slowly walks toward group of kids.

**Group of 4 friends:** Slowly back away from the bear toward the school, making noise and grouping together. As the bear continues to move toward them, start yelling at the bear, telling it to go away. Get inside the school. Tell the first teacher or adult you see.



## Activity Sheet 4A

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# Bear Wise Role Play

### Scenario #3: In the Neighbourhood

#### Part 1:

Your family is having a barbecue in your backyard. Dad is cooking hotdogs and hamburgers and there is a big cake for dessert. While you are waiting for dinner you play ball with your dog, but then your crazy dog decides to chase after a squirrel that's looking for food in the bird feeder. Running away from the dog, the squirrel runs across the patio, knocking the dog's dish flying ... What a mess!!!

After dinner, it is time to clean up. You throw all the dirty paper plates into the trash can and empty pop cans into the recycling. Once all the clean up is done you place the garbage and recycling back into the shed.

#### Part 2:

The next day your cousin comes over and you decide to go for a bike ride. You start down the trail and spot a black bear around the next curve. The bear doesn't see you and continues to eat berries off a bush, what should you do?

#### **Roles:**

**Narrator:** Read the scenario, but before the actors act out the play, ask the class to identify some things in the backyard that might attract a bear.

#### Part 1:

##### **Barbecue:**

Even though an empty barbecue does not offer any food to a bear, it sure smells like food. Remove grease and food residue from the grill and grease trap after each use.

##### **Squirrel:**

Full birdfeeders can attract bears. Always make sure that your parents only feed birds during the winter months.

##### **Dog:**

The dog's food can also attract bears. Do not leave your pet's food outside.

##### **Dirty Plate and Pop Can:**

Garbage should be cleaned up as soon as possible. Be sure to store garbage indoors and do not put the garbage out until the morning of garbage day. Reduce or eliminate all smells.

#### Part 2:

##### **Bear:**

Eating berries, does not see kids.

##### **Two Kids:**

Spot bear in distance, stop and head back home. Tell your parents where you saw the bear.

# Black Bear Ecology

## Resources





## GRADE 4 Resources

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### Supplementary Internet Resources:

Bear Wise, Ministry of Natural Resources Ontario  
<http://ontario.ca/bearwise>

Get Bear Smart Society, British Columbia –  
<http://www.bearsmart.com/>

CyberHunt Kids: Bears in North America  
<http://teacher.scholastic.com/products/instructor/bears.htm>

North American Bear Centre  
<http://www.bear.org/>

USFS/IGCB – Black Bear  
<http://www.fs.fed.us/rl/wildlife/igbc/cwi/blackbear.htm>

MountainNature.com – Black Bears  
<http://www.mountainnature.com/wildlife/animalslatinameresult.asp?ID=43>

EnchantedLearning.com  
<http://www.enchantedlearning.com/subjects/mammals/bear/Amblackcoloring.shtml>

Living With Wildlife in Bear Country  
<http://wildlife.state.co.us/Education/StudentActivities/KidsPage/BlackBearChallenge.htm>

Animal Diversity Web  
[http://animaldiversity.ummz.umich.edu/site/accounts/information/Ursus\\_americanus.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Ursus_americanus.html)

BBC – Science and Nature  
<http://www.bbc.co.uk/nature/wildlfacts/factfiles/9.shtml>

Adirondack Black Bear  
<http://www.esf.edu/PUBPROG/brochure/bears/bears.htm>

Juneau Alaska – Bears  
<http://www.juneau.org/bears/index.php>

Bears and People – Parks Canada  
[http://www.pc.gc.ca/pnnp/ab/banff/visit/visit12\\_E.asp](http://www.pc.gc.ca/pnnp/ab/banff/visit/visit12_E.asp)

Alberta – bears  
<http://srd.alberta.ca/fishwildlife/livingwith/bearfacts/default.aspx>



## Glossary

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**Adaptation:** is a feature, behaviour or appearance an animal or plant has that helps it to survive in a certain biome or its habitat.

**Community:** a characteristic group of plants and animals living and interacting with one another in a specific region under similar environmental conditions

**Consumer:** organisms that feed on other organisms

**Ecology:** the study of the relationship between organisms and their environment

**Ecosystem:** a community of plants, animals and microorganisms that are linked by energy and nutrient flows and that interact with each other and with the physical environment

**Food Chain:** a series of organisms linked together in the order that they feed on each other

**Food Web:** all of the interlinked food chains in a community or an ecosystem

**Habitat:** the area in which an animal, plant or microorganism lives and finds the nutrients, water, sunlight, shelter, living space and other essentials it needs to survive

**Herbivore:** animals that only eat plants

**Omnivore:** an organism that feeds on plants and other animals

**Organism:** a living member of an ecosystem

**Predator:** an animal that hunts and kills animals for food

**Prey:** an animal that is hunted by another animal, a predator

**Producers:** any organism that uses the sun's energy to survive. All plants are producers

**Species:** a group of organisms that have a unique set of characteristics (like body shape and behaviour) that distinguishes them from other organisms

# Nuisance Black Bears and What to do With Them

by L.J. Landriault, M.E. Obbard and W.J. Rettie

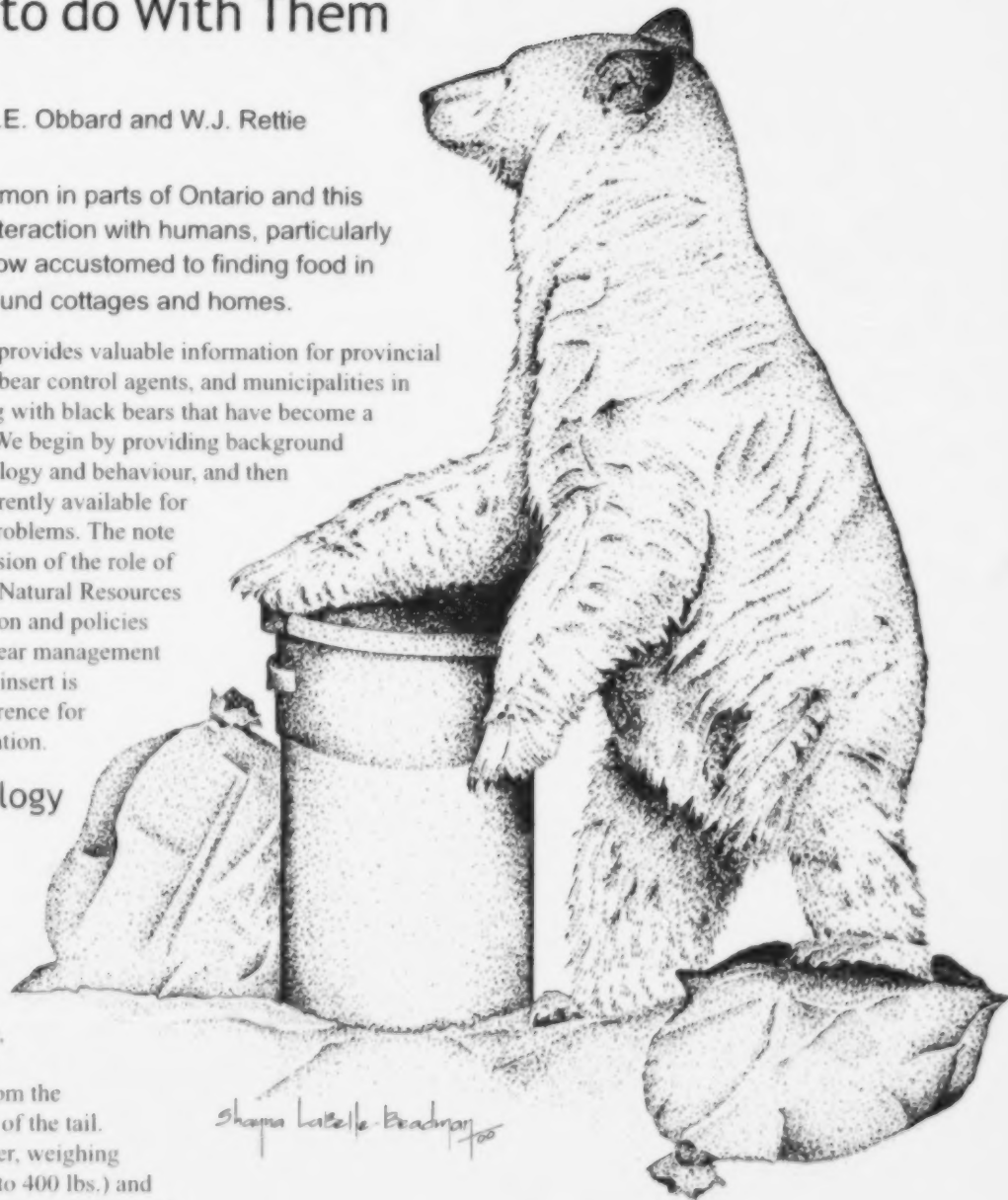
Black bears are common in parts of Ontario and this invariably leads to interaction with humans, particularly when the animals grow accustomed to finding food in populated areas, around cottages and homes.

This technical note provides valuable information for provincial and local police forces, bear control agents, and municipalities in planning for and dealing with black bears that have become a nuisance to the public. We begin by providing background information on bear ecology and behaviour, and then discuss the methods currently available for solving nuisance bear problems. The note concludes with a discussion of the role of the Ontario Ministry of Natural Resources (MNR) and the legislation and policies that apply to nuisance bear management in Ontario. A laminated insert is included as a quick reference for some of the key information.

## Black Bear Ecology

### Description

Black bears are large, heavily boned mammals. Adult males weigh from 120 kg to 300 kg (250 to 650 lbs.), and are 130 to 190 cm (4 to 6 feet) in length from the tip of the nose to the tip of the tail. Adult females are smaller, weighing from 45 to 180 kg (100 to 400 lbs.) and measuring 110 to 170 cm (3½ to 5½ feet) in length. Adult females reach maximum height and length at about five years of age. Adult males reach their maximum height and length when they are seven or eight years old.





Body weights of adult bears vary dramatically throughout the year, and from one year to the next, depending on food availability. In Ontario, adult bears lose weight from the time they enter the den in the fall until

well after they emerge from the den in spring. In early July, berries and other soft fruits start to become available and adult bears begin to gain weight. When food is abundant, bears can gain up to 1 kg per day and can double their weight by fall.

Most black bears in Ontario have a black coat colour though a small proportion (probably less than five percent) are dark brown to light brown.

## Distinguishing Age and Sex Classes

The following are general descriptions of bear age and sex classes:

- **Adult male** bears have heavily muscled necks, shoulders and forelimbs, and have well developed muscle masses on top of their heads. Males also have broad snouts and their ears appear to be small because of the size of the head. If a male bear stands up and faces you, it is generally easy to see the penis. If you observe a male bear in a side view, long hairs hanging down from the penis can be seen in front of his thigh as he walks.

well-developed muscle mass on top of head

broad snout

well-muscled neck and shoulders

Adult male

ears appear smaller

well-developed muscle mass on top of head

well-muscled forelimbs

long hairs visible from side



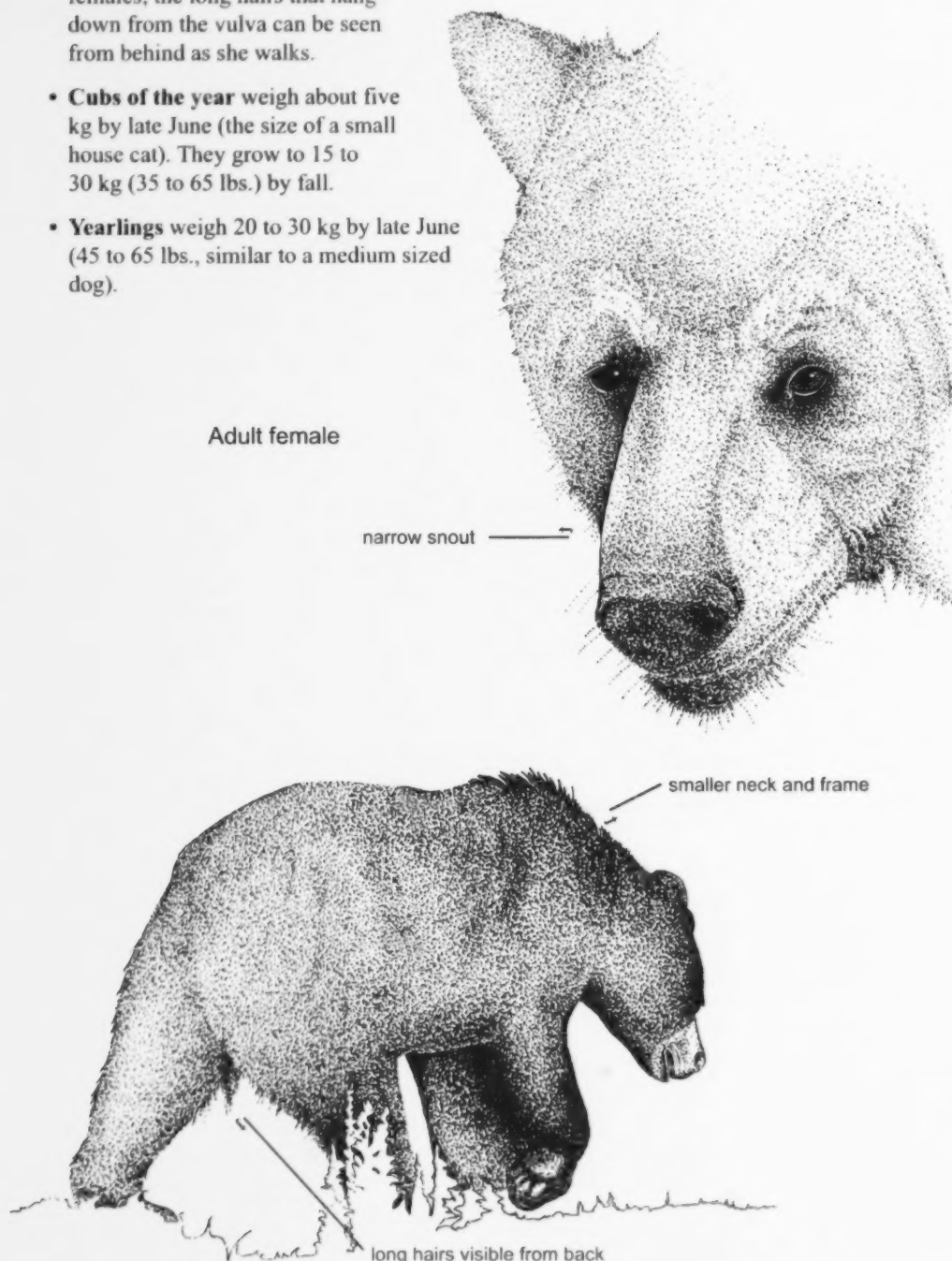
- **Adult females** are more slightly built than adult males; they have small necks and have smaller frames. If a female bear stands up and faces you, it is generally easy to see the nipples. In females, the long hairs that hang down from the vulva can be seen from behind as she walks.
- **Cubs of the year** weigh about five kg by late June (the size of a small house cat). They grow to 15 to 30 kg (35 to 65 lbs.) by fall.
- **Yearlings** weigh 20 to 30 kg by late June (45 to 65 lbs., similar to a medium sized dog).

Adult female

narrow snout

smaller neck and frame

long hairs visible from back



## Distribution and Habitat

Black bears are found throughout most of Ontario, from close to Lake Ontario in the south to the Hudson Bay coast in the north, though they are more sparsely distributed in the far north. Throughout most of this range, the bears have free access to neighbouring areas, however the bears on the Bruce Peninsula seem to be isolated from the black bears found east of Georgian Bay.

The highest densities of bears in Ontario (more than 60 bears for every 100 square km of land) are found in areas such as the Chapleau Crown Game Preserve and Algonquin Provincial Park, where bears are protected from hunting. By comparison, in parts of the province where bears are hunted, the highest densities recorded are closer to 40 bears per 100 square km. The highest potential population growth rates are reached in the Great Lakes-St. Lawrence forest zone of central Ontario where bears have access to hard mast (acorns and beechnuts) in fall.



Black bear range

## Distribution and Habitat

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Black bear range

Unlike brown bears (grizzly bears) and polar bears, black bears are primarily inhabitants of forested areas where they are best able to meet their needs for cover, food, and security from predators (including other bears).

Black bears have well developed navigational abilities, though the specific mechanisms that they use are unknown. Bears use their navigational skills in summer and fall when they may migrate more than 100 km to blueberry patches, or to oak and beech stands. Apart from seasonal migrations, home ranges of adult female bears average 15 to 25 square km. Home ranges of adult males can be 10 times the size of female home ranges. Neither sex is believed to be territorial, and the home ranges of many bears can overlap.

## Foods Eaten

Bears have a keen sense of smell that enables them to locate food sources, including many that are not obvious to humans. Black bears are omnivores (they eat both plants and animals), but the bulk of their diet is plant material.

Generally, bears are opportunists. Their preferred foods are most abundant in uneven-aged mixed coniferous/deciduous forests that contain numerous shrub species. They consume a variety of food items as they become available throughout the year.

- **In spring**, bears feed on willow catkins, grasses, dandelions, clover, and aspen leaves. Leaves and flowers are preferred when they are highest in protein content (shortly after leaf burst or flowering), before the cell walls build up lignin and cellulose and become more difficult to digest. Important sources of protein in the spring may include newborn moose calves or deer fawns, or spawning suckers.
- **In summer**, ant colonies provide major protein sources, as do nests of bumblebees and wasps that are excavated and eaten. Berries and other soft fruits are eaten as they become available throughout the summer. These include fruits of various currants, wild sarsaparilla, dogwoods, strawberries, raspberries, pin and chokecherries, blueberries, and bristly sarsaparilla.
- **In fall**, hazelnuts, mountain ash, acorns and beechnuts are favoured foods.

## Food Availability

Items eaten in spring are generally predictable in timing of availability and do not vary greatly in abundance from one year to another. Nevertheless, many bears lose weight while feeding on these foods. At best, bears will maintain their weight in the spring.

Summer and fall food items vary greatly in timing of availability and in abundance from one year to another. For example, blueberries can vary from less than 10 kg per hectare to more than 1000 kg per hectare. Bears can double their body weight in years when fruits are abundant. It is the abundance of summer and fall foods that has the greatest effect on survival and on the proportion of adult females that reproduce successfully.

The potential for nuisance bear activity increases in years when berry crops fail and the animals search for alternate food sources. The behaviour may also be apparent the following spring when animals emerge from their dens in poor condition. Survival of the current year's cubs can be low following berry crop failure, and few females will produce cubs the following year.

Berry crop failure may occur as a result of a late spring frost that kills blossoms (usually in early June), or a summer drought that causes the berries to shrivel (generally in July or August).

## Life History

### Mating

Mating generally occurs in June and July. After mating, fertilized eggs do not implant in the wall of the uterus immediately. The fertilized egg undergoes a few cell divisions and development stops until the female is ready to enter her den (typically mid to late October).

At that time, if the female has attained a body weight of at least 70 kg then implantation occurs and the active gestation of about 60 days begins. If pregnant females do not gain enough weight in summer and fall then implantation does not occur and the female's body absorbs the fertilized eggs. Because there is a long delay between conception and active fetal development (known as delayed implantation), the mating season is not focused in a short time period as it is for other wildlife such as moose.



Black bear annual cycle

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Black bear annual cycle



Although the mating season may span two months, an individual female is in estrus (ready to ovulate, receptive to males, and able to become pregnant) for fewer than five days. During that five day period a male will consort with her and the pair may mate several times. The male will also attempt to keep other males away from the female.

During the two-month mating season, male black bears travel extensively searching for receptive females and often fight vigorously for mating opportunities. After the breeding season ends, most large males have recent wounds and scars on their heads and elsewhere on the body.

Genetic research conducted as part of the MNR's studies near Chapleau showed that cubs from the same litter may have different fathers, and that males may father cubs in more than one litter in a single year. It is likely that larger, older males are more successful in obtaining mating opportunities.

## Birth

Cubs are born while their mother is in her den, generally in early January but occasionally as late as early February. The timing of birth depends upon when the female enters the den. If the female enters the den late (perhaps in response to abundant fall foods) then the cubs are born later.

Newborn cubs weigh 200 to 300 grams, which is less than 1/300<sup>th</sup> of the mother's weight. In contrast, newborn humans weigh about 1/15<sup>th</sup> of the mother's weight.

Cubs grow rapidly on milk that has higher fat and protein contents than human or cow's milk. By six weeks of age, cubs weigh 2 to 3 kg (4 to 7 lbs.). By the time the family leaves the den in late April or early May, the cubs weigh 4 to 5 kg (about 10 lbs.).

Litter size varies from one to four cubs in Ontario, with most litters having either two or three cubs (average litter size is 2.4).

## Reproductive Output and Offspring Survival

Female black bears in Ontario may produce their first litter when they are five years old, but the average age of first reproduction is about six in central Ontario and seven in northern Ontario.

Cubs stay with their mother throughout the year of birth and den with her the following fall. Females with cubs of the year may become nuisances in late June when the nutritional demands of milk production peak and the berry crop is not yet ripe.

The family group breaks up the following May or June when the cubs (now yearlings) are 17 to 18 months old.

The time at which a female parts from her 18 month-old offspring is the point in her reproductive cycle at which she is in the poorest condition. Her need to gain enough weight to reproduce successfully may make her more likely to become a nuisance at this point.

Following family break-up, a new breeding cycle begins as the adult female prepares to ovulate, and becomes receptive to males again. Therefore, female black bears cannot breed successfully more than once every two years.



In the Great Lakes-St. Lawrence forest zone, most females are able to produce litters every second year. However, in the Boreal forest where food is less abundant and food failure events are more common, most females cannot produce cubs every second year. In this region, the interval between litters is often three or four years.



In central Ontario about 75 percent of cubs survive their first year, and about 75 percent of yearlings survive to two years. By comparison, in northern Ontario only about 50 percent of cubs survive to one year old, and about 50 percent of yearlings survive to two years.

## Seasonal Patterns



- **Emergence from den:** In most years black bears emerge from their winter dens from mid to late-April in central Ontario and between mid-April and early May in northern Ontario, though they may emerge sooner in early springs.

Typically, adult males are the first to emerge, followed by sub-adult males and females, females accompanied by yearlings, and finally, females with cubs of the year.



Adult males often wander considerably at this time and will feed on winter-killed moose and deer.

Family groups, especially females with cubs of the year, often spend a week or longer in the immediate vicinity of the den after emerging in the spring.



In the fall, pregnant females often plan for the following spring by choosing den sites that have large trees (more than 25 cm diameter) within 30 m of the den. These large trees are referred to as 'sanctuary trees' and are typically white pines in central Ontario and white spruce or cedars in northern Ontario. Sanctuary trees function as escape cover for the young cubs in the period after the family emerges from the den, and adult females will cache their cubs in such trees while foraging.



- **In early spring,** black bears frequent openings in the forest and road edges where new green vegetation first appears. Later they may travel to streams to feed on spawning white suckers. Bears are also frequently found along roadsides where they bend down young trees to strip the new leaves from the branches. After aspen leaves emerge, black bears may be found high in mature trees feeding on the new leaves.



- **Early summer:** From den emergence to early July adult female black bears have a home range of about 20 to 25 square km. In spring and summer, black bears are generally active from about an hour before sunrise to about an hour after sunset. On hot afternoons bears are often found near water bodies.



- **Summer/Early Fall:** In northern Ontario, the timing of seasonal movements by black bears is closely linked to the availability of blueberries. If fruits are available early the bears leave their home ranges early and, if fruits ripen late, the bears delay their foraging trips.

Black bears appear to sample the blueberries available in their home range and then move to patches with more berries when fruits are mature. In most years bears begin to leave their spring range in early July and travel in search of blueberry patches. Blueberry patches are often found in regenerating jack pine plantations. Old burns are also visited. Bears studied near Chapleau travelled an average of about 50 km to good blueberry patches, though some females travelled as far as 100 km.





In central Ontario and parts of northwestern Ontario foraging trips by black bears are linked to the availability of acorns or beechnuts. Thus, seasonal movements in central Ontario are more likely to occur in fall than in summer. In years when major food crops fail, black bears wander more widely and can remain away from their spring ranges for three to four months.

- **By early September** most bears in northern Ontario return to the home range used in spring and early summer and begin to search for a suitable den site. They feed on hazelnuts and mountain ash fruits if available, but also frequent road edges where they feed on fall growth of grasses and clovers.
- **By mid-October** most bears will have selected a site and be in the process of constructing a den, though they will continue to forage as long as food is available. As the days shorten, their daily cycle of activity slows and they are often not active until mid-morning.

Pregnant females are the first bears to enter their dens, followed by females accompanied by cubs of the year, subadults, and finally adult males.

In most years all bears, except perhaps for adult males, will be in their dens by early November and will not leave their dens until the following spring. Actual timing of entry into dens appears to be influenced by a variety of environmental cues including availability of food, change in day length, and snow cover. Of these, the most important cue is food availability and in years when mountain ash fruit is available in northern Ontario, bears will enter their dens two to three weeks later than in other years.

## Interactions with Humans

Interactions between humans and black bears are most likely to occur near what a bear identifies as a food source. The frequency of such encounters depends on a number of factors:

- how much natural food is currently available to bears
- how much natural food was available to bears in the previous summer and fall
- the proportion of the bear population that consists of yearling and two-year-old bears (which will peak one or two years following highly successful reproductive years). Yearlings and two-year-olds wander widely as they disperse from the area where they were born. They are often unwary and naive and are more likely to come into contact with humans.
- whether bears have ready access to human garbage
- availability of agricultural and horticultural crops
- seasonal human behaviour that brings people into contact with bears (e.g. encounters will increase when people begin to arrive at cottages and campgrounds).

In the majority of situations, black bears pose no threat to humans, but there are several factors that may affect perceived or real dangers in those situations.





**At dumps:** Many people encounter bears at local dumps or landfills where bears congregate around the high energy food source. In such situations, bears have well developed dominance hierarchies and have few aggressive encounters among themselves other than noisy displays. Bears at dumps seldom pose any threat to humans unless people attempt to feed bears by hand, or approach too closely while trying to photograph animals.



**Along Roadsides:** Bears encountered along roadsides may quickly become 'panhandlers' if they are fed by passing motorists. In these cases the bears may lose their fear of humans, and people have been bitten or scratched while attempting to feed panhandling bears.



**Wilderness situations:** People may also encounter bears along trails or in other wilderness situations, but close encounters are most likely to occur near potential food sources.

## When a Bear Becomes a Nuisance



Not all black bears encountered by humans are nuisances. We consider a nuisance bear to be one that poses an immediate threat to human safety or one that has developed a pattern of behaviour that makes it a long term risk to safety or property.

In all situations where bears are perceived as a nuisance, the objectives should be to first eliminate risks to human safety and then to minimize the risks to the animal(s). The following section is intended to assist in the decision making process and in the development of response plans.



## Responses to Nuisance Bears

Some nuisance bear complaints require direct action and some do not.

### No Action Required



Complaints that do not require direct intervention generally include simple sightings, and reports of bears raiding garbage, bird feeders, compost, barbecues, and livestock forage. In these cases, always review the situation, ensure there is no danger to humans, caution the complainant to avoid contact with the animal, and provide advice on how to avoid recurrence of the problem.



Taking no direct action is a viable option for some nuisance bear complaints, particularly those that are simply reported sightings or that are related to a specific attractant (e.g. garbage) in a specific location. In such cases personnel should be prepared to provide an assessment of the situation and to put forward suggestions to assist in remedying the problem. Once an attractant is removed, bears will generally return a couple of times searching for food and will then likely exclude the area from their foraging excursions. Municipalities, businesses, and rural inhabitants that use bear-proof garbage bins will greatly reduce the number of nuisance bear problems, as will urban inhabitants who keep their garbage indoors until scheduled garbage collection.



## Bears travel far for food.

Bears are highly intelligent. They easily learn where food sources can be found and use their keen sense of smell to seek them out. Bears will travel more than 100 kilometres to a known food source like a berry patch or a stand of beech trees and they will return to these same locations year after year. Bears are always looking for new food sources, including your garbage or the contents of your cooler. Once they determine that food can be found at your house or campsite, they will revisit again and again.



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### **Some things to remember about Ontario's black bears:**

- When food crops fail, the potential for human-bear conflicts increases as bears search for alternate food sources
- Bears lose their natural fear of humans through repeated exposure to people in areas where food is intentionally or unintentionally provided. In such cases, conflict with humans is inevitable. Bears may even become destructive or dangerous
- Such bears are often destroyed because they have become "nuisances" or are perceived as a threat to human safety. They also have a greater risk of getting injured or killed in collisions with vehicles. That is why you should never intentionally feed bears or place food to attract other wildlife (including birds) to your yard for viewing
- Bears quickly learn to associate human residences and campsites with a readily available food source. In fact, most bear problems occur as the result of improperly stored household garbage
- Bears are also attracted to pet food that is left outdoors, bird feeders, grease and food residue left on barbecue grills, composters, fruit trees, sweet corn and grain fields
- Garbage dumps provide a concentration of readily available food that often attracts bears. Bears that feed on garbage in landfills risk physical injury. They also become conditioned to eating garbage at landfills

To learn more about bear encounters, see our Fact Sheets "What to do if you encounter a bear" and "Be safe in bear country".

There's more ...  
see over!



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## Bears are part of our natural heritage.

Black bears are an important part of our ecosystem. They are highly intelligent, powerful and potentially dangerous. Usually, bears avoid and fear humans. They are opportunistic omnivores. In other words, they will eat just about anything people will eat. They will also eat food waste created by humans. Here are some facts to help you better understand how black bears behave, both in the wild and around human habitation.

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### A quick look at black bears:

- Black bears live primarily in forested areas and throughout most of Ontario
- They are large, powerful animals. Adult males can weigh between 120-270 kilograms (250-600 pounds). Adult females can weigh between 45-180 kilograms (100-400 pounds)
- Female bears have their first cubs when they are between five and seven years old. Mother bears do not produce cubs every year, they stay with their cubs throughout their year of birth and until the following spring

### Hibernation:

- Black bears hibernate for about six months. In this time, they do not eat or drink
- Most black bears in northern Ontario move into their winter dens by mid-October. In central Ontario, bears usually enter their dens by early November
- In most years black bears in northern Ontario emerge from their dens between mid-April and early May. Bears in central Ontario leave their dens from mid to late April

### Food:

- Bears feed from mid-April to late fall
- From the time bears come out of hibernation until berry crops are available, bears live off their stored fat and the limited energy provided by fresh spring greens
- Black bears eat a variety of foods. They get most of their food energy by feeding on summer berry crops such as blueberries, strawberries and raspberries, as well as hazel nuts, mountain ash, acorns and beech nuts in the fall
- In late summer and early fall some bears actively feed for 20 hours a day, ingesting as much as 20,000 calories
- Black bears are selective feeders and prefer foods that are accessible, high in energy and easy to digest. They eat both plants and animals, but the bulk of their diet is plant material
- Bears need to fatten up so they can survive winter hibernation and in the case of females, produce and feed young. Bears are instinctively driven to feed. Bears typically double their body weight during the summer and fall

### Human-bear conflict:

- If natural foods are not readily available, bears will look for other food sources – primarily your garbage
- Once bears learn where to find and get a non-natural food source, they will return again and again

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BEAR WISE.

## Bears in your schoolyard. *What you can do.*

### If you see a bear on or around school property:

- GO INSIDE the school right away
- TELL the first adult you see

### If you are walking home, or just getting off the school bus and you see a bear:

- Get to the nearest house
- Tell the first adult you see

### If the bear MOVES TOWARD you:

- SLOWLY BACK AWAY toward the school while MAKING NOISE
- REMOVE and drop your backpack if it contains food
- YELL at the bear to GO AWAY!
- If the bear continues to move toward you, stop and keep shouting at the bear. Keep moving slowly toward the school whenever the bear stops
- DO NOT "play dead"
- DO NOT turn and run
- GET INSIDE the school as soon as you can, without running
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### If the bear sees YOU:

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### Help keep bears away:

- Keep your lunch inside the school
- Do not leave food, wrappings or lunch bags in the schoolyard. Take them inside the school to throw away
- Tell your teacher if you see food or garbage left in open bins or in the schoolyard
- Encourage your school to purchase bear-resistant garbage containers
- Encourage nearby residents to be Bear Wise

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Ministry of Natural Resources



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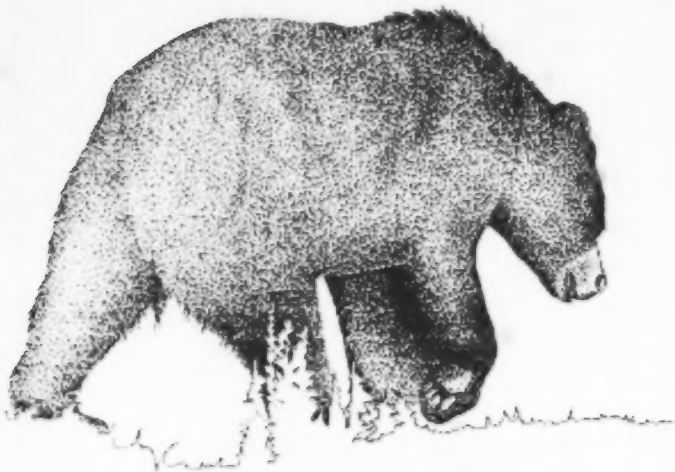
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- Black bears are not like friendly cartoon bears. They are smart, curious, powerful and potentially dangerous.
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- Most black bears in Ontario have black fur, but a few can be dark brown to light brown.
- In Ontario, black bears live in forests from Lake Ontario in the south to Hudson Bay in the north.
- Black bears are omnivores. They eat plants, animals and human foods that are easy to get at.
- Black bears feed from the middle of April until late fall.
- In the fall, black bears eat for up to 20 hours a day!
- Black bears eat a variety of foods. They get most of their food energy by feeding on summer berry crops like blueberries, strawberries and raspberries, as well as hazel nuts, mountain ash, acorns and beech nuts in the fall.



Artist: Shayna LaBelle-Beadman ©OMNR



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- Black bears will travel more than 100 kilometres (k) to find food. If black bears cannot find natural foods, they will travel to find other food, including garbage.
- They can double their body weight during summer and fall getting ready for winter.
- By early November, most black bears move into their dens for the winter.
- Black bears are an important part of our ecosystem.

**Black bears are not usually dangerous animals. Admire them. Respect them. But please, don't feed them.**

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Illustrations by Shayna LaBelle-Beadman from Nuisance black bears and what to do with them, Ontario Ministry of Natural Resources, Northeast Sciences & Technology TN-017, 2000 Queen's Printer for Ontario

There's more ...  
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# Be safe in *bear country.*

Black bears live in most parts of Ontario. Chances are wherever you live, visit or spend your leisure time, you will be near bears or bear habitat. For your own personal safety, and for the well being of bears, it is important that you learn about bears and their behaviour. Know how to prevent and handle potential encounters with bears. Be safe, be responsible, be Bear Wise.

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## Avoid encounters:

- Make noise as you move through wooded areas – especially in areas where visibility is restricted or where background noise is high, such as near streams and waterfalls. Singing, whistling or talking will alert bears to your presence, giving them a chance to avoid you
- While outdoors, keep your eyes and ears open:
  - Do not wear music headphones
  - Watch for signs of bear activity, like tracks, claw marks on trees, flipped-over rocks or fresh bear droppings
  - If you are out with a dog, leash it. Uncontrolled, untrained dogs may actually lead a bear to you
  - Pay attention, especially if you are undertaking activities like working, gardening or berry picking. Occasionally scan your surroundings to check for bears. Rise slowly from your crouched position so you don't startle any nearby bears. They may not recognize you as a human when you are in a crouched position

## Think about safety:

- Carry and have readily accessible a whistle or an air horn
- Learn how to carry and use bear pepper spray. Know its limitations
- If you are in "back country" consider carrying a long-handled axe

## Whenever you spot or encounter a black bear:

- Stop. Do not panic. Remain calm
- Do not try to get closer to the bear for a better look or picture. Never feed a bear
- Do not run, climb a tree or swim
- Quickly assess the situation and try to determine which type of an encounter this might be – sighting, surprise or close encounter
- Always watch the bear. While watching the bear, slowly back away until the bear is out of sight
- If you are near a building or vehicle get inside as a precaution
- If you are berry picking, or enjoying other outdoor activities like hiking, jogging cycling or camping leave the area
- Tell others about bear activity in the area

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- Do not run, climb a tree or swim
- Quickly assess the situation and try to determine which type of an encounter this might be – sighting, surprise or close encounter
- Always watch the bear. While watching the bear, slowly back away until the bear is out of sight
- If you are near a building or vehicle get inside as a precaution
- If you are berry picking, or enjoying other outdoor activities like hiking, jogging cycling or camping leave the area
- Tell others about bear activity in the area

There's more ...  
see over! ➡

Ministry of Natural Resources





# What to do if you encounter a bear.

Knowing what to do if you encounter a bear is being Bear Wise. But some encounters may be more dangerous than others, so it's important to recognize the signs, and know what you can do to protect yourself.

BEARS CAN  
BE DANGEROUS



In an immediate emergency,  
call your local police or 911.  
To report bear problems call:

**1 866 514-2327**

(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our  
website:

**ontario.ca/bearwise**

## Know the language of black bears:

If you by chance encounter a black bear it may:

- Stand on its hind legs to get a better look at you
- Salivate excessively, exhale loudly, and make huffing, moaning, clacking and popping sounds with its mouth, teeth and jaws
- Lower its head with its ears drawn back while facing you
- Charge forward, and/or swat the ground with its paws. This is also known as a bluff charge

Generally, the noisier the bear is, the less dangerous it is provided you don't approach the bear. These are all warning signals bears give to let you know you are too close. When bears are caught off guard, they are stressed, and usually just want to flee.

## What to do – Surprise and Close Encounters:

- Remain calm. Do not run. Stand still and talk to the bear in a calm voice
- Arm your pepper spray
- Do not try to get closer to the bear
- If the bear does not get closer to you, slowly back away, talking to the bear in a quiet, monotone voice. Do not scream, turn your back on the bear, run, kneel down or make direct eye contact
- Watch the bear and wait for it to leave
- If the bear does not leave or approaches you, yell and wave your arms to make yourself look bigger. Throw objects, blow a whistle or an air horn. The idea is to persuade the bear to leave
- If you are with others, stay together and act as a group. Make sure the bear has a clear escape route
- If the bear keeps advancing, and is getting close, stand your ground. Use your bear pepper spray (if the bear is within seven metres) or anything else you can find or use to threaten or distract the bear
- Do not run or climb a tree

## About attacks:

Black bear attacks are extremely rare. A black bear may attack if:

- It perceives you to be a threat to it, its cubs or it may be defending food. This is a defensive bear that wants more space between you and it. Such attacks are exceedingly rare although a bear's aggressive display may seem to suggest otherwise
- It is a predatory bear. These bears are also very rare. Predatory attacks usually occur in rural or in remote areas. Predatory bears approach silently, and may continue to approach regardless of your attempts to deter them by yelling or throwing rocks

## What to do if an encounter results in an attack:

- Use your pepper spray
- Fight back with everything you have
- Do not play dead except in the rare instance when you are sure a mother bear is attacking you in defense of cubs

There's more ...  
see over! →

BEAR WISE

## Keep bears out of your neighbourhood.

You may not even know you are doing it. You could be attracting bears onto your property and into your community. Garbage is the main reason why bears are drawn into communities. Bird and pet food, greasy barbecues and ripe or decaying fruit, berries and vegetables are other invitations to bears to forage for food in your yard. This is not good for you, for your neighbours or for bears.

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(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our  
website:

**ontario.ca/bearwise**

Problems with bears are usually created by people. By following these tips every spring, summer and fall, you can avoid attracting bears to your property:

### Garbage:

- Eliminate odours. Put garbage in containers that have tight fitting lids, and only put it out on the morning of garbage day, not the night before
- Whenever possible, store garbage in bear-resistant containers, or indoors (house, shed, garage). Do not store garbage in plywood boxes, old freezers or vehicles
- Put meat scraps in the freezer until garbage day
- If you do not have curbside pick up, take your garbage to the dump often
- Frequently wash garbage cans and recycle containers and lids with a strong smelling disinfectant

### Bird/Pet food:

- Fill bird feeders only through the winter months
- Do not leave pet food outdoors. Feed pets indoors, not outside or in screened in areas or porches

### Fruits/Vegetables/Compost:

- Avoid landscaping with trees, shrubs or plants that produce food known to attract bears (some examples include crab apple trees, mountain ash, beech and oak)
- Do not put meat, fish or sweet food (including fruit) in your composter
- Remove vegetables and fallen fruit from the ground
- Pick all ripe fruit from trees and bushes

### Smells:

- Be aware that cooking odours can attract bears
- Remove grease and food residue from barbecue grills, including the grease cup underneath, after each use

Learn about bears, their needs and behaviour. Share your knowledge with others. Encourage your neighbours and your community to practice Bear Wise habits. It takes everyone working together to keep bears away.

For more information about bears, see our Fact Sheets "Bears travel far for food" and "Bears are part of our natural heritage".

There's more ...  
see over!



Ministry of Natural Resources





BEAR WISE

## What to do if you see or encounter a bear ***on your property.***

Black bears live mostly in forested areas where they are best able to find food, winter den sites and refuge. With human activity, development and population increasing in what we often call "bear country" or "cottage country" so too are the possibilities for people to see or encounter bears. Knowing what to do if you see a bear on your property is being Bear Wise.

BEARS CAN  
BE DANGEROUS



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TTY 705 945-7641

For more information, visit our  
website:

**ontario.ca/bearwise**

Every encounter with a black bear is unique. The following information is what experts recommend you do. There is no guarantee that what works in one instance will work in another.

### **Black Bear safety basics:**

- Never approach the bear to get a better look
- Do not attempt to feed a bear
- Anticipate and avoid encounters
- Know what to do if you encounter a bear
- Learn about bears and their behaviour
- When outdoors, supervise children and never leave pets unattended

### **If you spot a black bear:**

- Stay calm. Often the bear is simply passing through
- Do not run away. Walk towards a building or vehicle and get inside
- If you have children and pets, bring them inside too
- Once indoors, observe the bear. Did it move on or did it stay on your property? If the bear stayed, what was it doing or eating?
- Encourage the bear to leave. Bang pots and pans, or blow an air horn or whistle. The more stressful a bear's encounter with you, the less likely it is to come back
- If the bear got food (like garbage or bird food), or if the bear tried to get food, you will need to remove or control the item that attracted the bear
- Once the bear leaves, remove the attractant and assess your property for other possible attractants like garbage, dirty barbecue, bird or pet food or fruit or berries from your trees or bushes
- It is possible for a bear to return even though you removed the attractant. Bears do return to places where they have found food. Once the bear does not get food, it will move on
- If you have done everything you can to remove attractants, and the bear persists, call 1-866-514-2327
- If a bear is damaging your property, breaking into your home or threatening your personal safety or that of others, call 911 or your local police
- Alert your neighbours about bear activity, and work together to keep your neighbourhood free from items that attract bears
- Work with your municipality to solve problems before they happen
- If a bear is in a tree, leave it alone. Remove people and dogs from the area. The bear will usually come down and leave when it feels safe

NOTE: If you have shot a bear in defense of your property, you are required by law to immediately report it to your local Ministry of Natural Resources office either in person or by telephone. This requirement applies whether you intend to keep the bear or not. Failure to do so is a violation of the Fish and Wildlife Conservation Act.

To learn more about bear encounters, see our Fact Sheets  
"Be safe in bear country" and "What to do if you encounter a bear".

There's more ...  
see over! ➡

Ministry of Natural Resources





## How to avoid encounters with black bears while enjoying the outdoors.

Black bears are nothing like friendly cartoon bears. They are smart, curious, powerful and potentially dangerous. And they don't like surprises. If you are a hiker, cyclist, jogger, berry picker, or you plan to spend some time in "bear country", you need to know how bears behave so that you can avoid an encounter.

BEARS CAN  
BE DANGEROUS



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(1 866 514-BEAR)


TTY 705 945-7641

For more information, visit our website:

[ontario.ca/bearwise](http://ontario.ca/bearwise)

Bears usually avoid humans. Generally you won't see a bear even if one is close by. Remember, you are a visitor in the bear's home range, so do all you can to avoid encounters.

- Make noise as you move through wooded areas – especially in areas where background noise is high, such as near streams and waterfalls. Singing, whistling or talking will alert bears to your presence, giving them a chance to avoid you
- Travel with others if possible
- Be aware of your surroundings by keeping your eyes and ears open
  - Do not wear music headphones
  - Keep an eye out for signs of bears, such as tracks, claw marks on trees, flipped-over rocks or fresh bear droppings
- Carry and have readily accessible a whistle or an air horn, and bear pepper spray. Know how to use this spray – practise on a stationary object to get the feel for how the canister sprays, and to know its limitations
- Consider carrying a long-handled axe, particularly if you are in "back country"
- Avoid strong fragrances that may cause a bear to be curious; put any food you are carrying in sealed containers in your pack
- If you are out with a dog, control it. Uncontrolled, untrained dogs may actually lead a bear to you
- While berry picking, occasionally scan your surroundings to check for bears, and rise slowly from your crouched position so you don't startle any nearby bears. They may not recognize you as a human when you are in a crouched position

There's more ...  
see over! 



BEAR WISE

## What to do if you encounter a black bear while enjoying the outdoors.

Bears usually avoid humans. But if you do encounter one, it's important to remember that they are powerful and potentially dangerous animals. If you are a hiker, cyclist, jogger, berry picker, or anyone who plans to spend some time in "bear country", there are some things you should do if you encounter a bear.

BEARS CAN  
BE DANGEROUS



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**1 866 514-2327**

(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our website:

**ontario.ca/bearwise**

### If you encounter a bear:

- If the bear is not paying any attention to you, slowly and quietly back away while watching the bear to make sure it isn't following you
- Do not approach the bear to get a better look
- If the bear obviously knows you are there, raise your arms to let the bear know you are a human. Make yourself look as big as possible. Speak in a firm but non-threatening voice while looking at the bear and backing away
- Watch the bear to gauge its reaction to you. Generally, the noisier the bear is, the less dangerous it is, providing you don't approach the bear. If a bear huffs, pops its jaw or stomps its paws on the ground, it wants you to back away and give it space
- If a bear closely approaches you, drop any food you are carrying and continue backing up
- If the bear continues to try to approach, stand your ground and be aggressive – use your whistle or air horn, yell, stand tall, wave your arms and throw objects
- If a bear keeps advancing and is getting close, continue to stand your ground. Use your bear pepper spray and anything else to threaten or distract the bear – bears will often first test to see if it is safe to approach you
- Do **not** run or climb a tree. Bears can run faster and climb better than you
- If the bear makes contact, fight back with everything you have

If you are concerned, contact the local Ministry of Natural Resources office in the area you are going to visit to determine whether there have been any reports of bear encounters or conflicts.

There's more ...  
see over!



Ministry of Natural Resources

 Ontario

BEAR WISE

## How to avoid encounters while camping.

When enjoying Ontario's campsites, lakes, forests and hiking trails, it's wise to remember that you're in the natural habitat of black bears. Bears have a keen sense of smell, and are attracted by the odour of human food and garbage. To avoid conflicts with bears, prepare ... and be aware.

BEARS CAN  
BE DANGEROUS



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**1 866 514-2327**

(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our website:

[ontario.ca/bearwise](http://ontario.ca/bearwise)

### What campers can do – know before you go:

- You are responsible for your own safety. Plan your trip with safety in mind. Before you go, learn about black bears; signs of bear activity (like tracks and scat), and how to prevent and handle encounters with bears
- If you are bringing children, always keep an eye on them. When hiking, it is wise to keep children between adults
- Before you go, discuss bears with children. Teach children simple things like making sure they can always see an adult; to never approach a bear or other animals; to never run from a bear and if they see a bear to stay calm and call for help
- If you plan on bringing a dog, you should verify whether there are any rules that prohibit dogs or require them to be on a leash
- All food odours can attract bears. Pack all food, including dog food, with special care. Double or triple bag food to reduce smells. Consider choosing meals that require minimal preparation
- Think about how you will handle your garbage, and how you will keep your campsite clean and odour free. Your safety and that of other campers depends on your diligence to keep the area clean and free from all odours
- Pack a couple of long ropes for hanging your food pack. Practice hanging a pack before you go
- Think about bringing a whistle, air horn, long-handled axe or pepper spray. If you bring pepper spray, know how to use it
- The Ministry of Natural Resources or an Ontario Parks Office can provide general information about recent campsite or route closures due to bear problems. Keep in mind, however, that bear activity can not be predicted
- Once in a while people will encounter black bears. Have a plan in mind if a bear enters your campsite
- People are rarely attacked and/or killed by black bears. Nonetheless, it is important that you be prepared to handle an encounter or an attack

For more information on bear encounters, see our Fact Sheets "What to do if you encounter a bear" and "Be safe in bear country". For more information on avoiding encounters, see our Fact Sheets "How to avoid encounters with black bears while enjoying the outdoors" and "What to do if you encounter a black bear while enjoying the outdoors".

There's more ...  
see over!



Ministry of Natural Resources



Ontario

# How to avoid encounters *while camping.*

When enjoying Ontario's campsites, lakes, forests and hiking trails, it's wise to remember that you're in the natural habitat of black bears. Bears have a keen sense of smell, and are attracted by the odour of human food and garbage. To avoid conflicts with bears, prepare ... and be aware.

**BEARS CAN  
BE DANGEROUS**



In an immediate emergency, call your local police or 911. To report bear problems call:

**1 866 514-2327**

(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our website:

**ontario.ca/bearwise**

## What campers can do – at your campsite

- If you are going to an Ontario Park or a private campground do follow advice provided by their staff
- No matter where you camp, always pack out all garbage from the backcountry and use bear-resistant containers where available
- Be aware that all food odours and residues can attract bears, so do everything you can to eliminate or reduce odours from yourself, your camp, your clothes and your vehicle
- Never feed or approach a bear
- Clean fish away from your campsite
- After a meal, store leftover food away from your campsite in sealed plastic bags and, if possible, in bear resistant containers
- Keep your site clean. Burn food scraps and fat drippings thoroughly in a fire. Drain dish water away from your camp site
- Never cook, eat or store any food (including snacks), cooking equipment or toiletries in your tent
- If you are sleeping in a tent try to not sleep in clothes you have worn while cooking meals
- Store food so that bears cannot reach it – in the trunk of your car or hanging at least 4 metres (13 feet) above the ground and 3 metres from tree limbs or trunks that can support a bear. Fishing tackle, clothes worn when cooking, garbage, toiletries and all snacks should also be hung. If you cannot hang your pack, put it in a canoe or boat that is anchored offshore
- Look for signs of bear activity nearby. Consider moving elsewhere if it appears as though a black bear has been active in the area
- If you plan to camp in remote areas you should take additional precautions to ensure your personal safety

For more information on bear encounters, see our Fact Sheets "What to do if you encounter a bear" and "Be safe in bear country". For more information on avoiding encounters, see our Fact Sheets "How to avoid encounters with black bears while enjoying the outdoors" and "What to do if you encounter a black bear while enjoying the outdoors".

There's more ...  
see over!



# Don't invite bears to the cottage.

Most problems between black bears and humans occur when bears are attracted by the smell of and rewarded with an easy meal. When bears pick up a scent with their keen noses, they will investigate it – even at your cottage property. If bears are rewarded with feasts of bird food, garbage or pet food, they will return as long as the food source continues to be available. It takes all cottagers working together to eliminate these attractants and to stop bear problems. Here are some tips to help avoid these unwanted visitors.

**BEARS CAN  
BE DANGEROUS**



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To report bear problems call:

**1 866 514-2327**

(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our website:

**ontario.ca/bearwise**

## What cottagers can do:

- Fill bird feeders only through the winter months
- Never purposely feed bears (or other wildlife) or try to approach them
- Put garbage in containers that have tight fitting lids, and only put it out on garbage day, not the night before
- Store garbage in a bear-resistant container, secure shed or garage. Do not store garbage in plywood boxes, old freezers or vehicles
- Do not stockpile garbage, take it to the dump frequently
- Never leave garbage behind. If you must leave before garbage day, or if you do not have curbside pick up, take your garbage with you when you go. Take it to the dump or to your home
- Keep meat scraps in the freezer until garbage day
- Do not leave pet food outdoors. Feed pets indoors, not outside or in screened in areas or porches
- Remove grease and food residue from barbecue grills, including the grease cup underneath, after each use
- Do not put meat, fish or sweet food (including fruit) in your composter
- Pick all ripe fruit off trees, and remove vegetables and fallen fruit from the ground
- Encourage your neighbours to practice good Bear Wise habits
- If you rent your cottage, tell your tenants the importance of being Bear Wise
- You are responsible for your own personal safety. Take precautions when you are in the outdoors. Visit [ontario.ca/bears](http://ontario.ca/bears) to learn more

For more information on bear encounters, see our Fact Sheets "How to avoid encounters with black bears while enjoying the outdoors" and "Be safe in bear country".

There's more ...  
see over!





## Before you leave the cottage.

Garbage continues to be the number one reason why bears are drawn onto properties, followed closely by bird seed, suet and nectar. Whether you are closing the cottage for the season, or just between stays, you can take a few simple precautions to avoid problems with bears and other animals too.

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For more information, visit our  
website:

[ontario.ca/bearwise](http://ontario.ca/bearwise)

### Before you go:

- Remove your garbage. Take it home or drop it off at the dump on your way out
- Use a strong disinfectant to eliminate all odours from garbage and recycling containers and lids
- Never discard cooking grease outside. Instead, place it in a container with a lid, transfer it to a plastic bag, and put in with other properly stored garbage
- Take your barbecue with you when you leave the cottage, or store it in a secure shed. Make sure it is clean
- Do not leave any food or food scraps outdoors for pets or other wildlife
- When packing up, remember to remove all the food from the inside of your cottage – a box of pudding or fruit-flavoured dessert mix may be all it takes to attract the bear
- Do not leave scented products outside. Even non-food items like suntan lotion, insect repellent, soap and candles may attract bears
- Close and lock all windows and doors
- If you are away for an extended period of time, have a neighbour or someone in the area occasionally do a walk around to look for signs of a bear visitor or break in. Let the person know where and how to contact you

For more information on bear encounters, see our Fact Sheets "How to avoid encounters with black bears while enjoying the outdoors" and "Be safe in bear country".

There's more ...  
see over!



BEAR WISE

## Don't invite bears *into your community.*

Communities must play a vital role in preventing Ontario's black bears from becoming a problem. Applying some basic steps in the way garbage is stored and collected, and how landfill sites are managed is responsible action communities need to take to help keep bears away. Here are some examples of how your community can get started.

BEARS CAN  
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For more information, visit our  
website:

**ontario.ca/bearwise**

### What your community can do:

- Get involved in the Bear Wise program by contacting your local Ministry of Natural Resources office
- Conduct a bear hazard assessment to identify potential problem areas
- Develop a plan to reduce human-bear conflicts
- Involve and engage all people in your community by inviting them to help or by providing them with information on steps they need to take to reduce bear problems
- Review future development plans relative to greenspace
- Provide a regular garbage collection schedule and consider adopting regulations that prohibit leaving garbage and other food attractants out, except on pickup day
- Provide bear-resistant garbage containers for community parks, streets and transfer sites
- Implement policies and procedures to ensure that residents and businesses are not attracting bears to the community
- Properly manage landfill sites to reduce their attractiveness to bears
- Install electric fencing around landfill sites
- Adopt and enforce garbage management by-laws. For more detailed information and ideas, visit [ontario.ca/bearwise](http://ontario.ca/bearwise)

Ministry of Natural Resources





# Black Bears: *Keep them off the farm.*

As an experienced farmer, you are more likely than most Ontarians to be aware of bears and their behaviour. You know that black bears often approach farm properties to find food, especially when their natural food sources are scarce. There are several things you can do to keep bears away from your farm so that the use of firearms becomes a last resort.



**BEARS CAN  
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(1 866 514-BEAR)

TTY 705 945-7641

For more information, visit our website:

**ontario.ca/bearwise**

## What farmers can do:

- Plant grain or cornfields as far away from the edge of the forest as possible. Leave a swath of open land or pasture between crops and the forest edge
- Pick all ripe fruit off trees and remove vegetables and fallen fruit from the ground
- Use electric fencing around orchards, beehives and vegetable and berry patches, or between grain crops and adjacent forest areas. Electric fencing can also help protect your animals and livestock
- It is best to install electric fences before bears become a problem or as soon as possible if bears are a problem. Electric fencing works best to deter bears if they have not become food-conditioned
- Keep your livestock away from woodlots and bear travel routes
- Ensure that calving areas are located in an open space away from forest cover
- Bears will eat carcasses. Dispose of dead stock according to legal requirements, and in a manner that bears can not access them
- Be alert for bears when working in bear habitat
- Develop a network with your neighbours to help keep each other informed about bears in your area
- For more detailed information, including tips on how to install electric fencing, visit [ontario.ca/bearwise](http://ontario.ca/bearwise)

Note: If you have shot a bear, you are required by law to immediately report it to your local Ministry of Natural Resources office either in person or by telephone. This requirement applies whether you intend to keep the bear or not. Failure to do so is a violation of the Fish and Wildlife Conservation Act.

To learn more about bear encounters, see our Fact Sheets "What to do if you encounter a bear" and "Be safe in bear country".



## Bears love *fast food and leftovers.*

Food service operations such as restaurants, fast food establishments and highway snack bars often have substantial amounts of garbage behind their buildings or stored nearby. Black bears are attracted to the smell of human food and garbage, and often come around foraging for an easy meal. It's wise to take steps to prevent this from happening.

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TTY 705 945-7641

For more information, visit our website:

**ontario.ca/bearwise**

### What your food business can do:

- Avoid stockpiling garbage – including edible oils
- Use bear-resistant containers wherever possible and secure the lids at all times
- Lock dumpster lids every night or use containers that are self-locking
- Empty garbage containers frequently
- Put garbage out on the morning of collection day, not the night before
- If your business takes its own garbage to the dump, make sure that it is stored behind securely closed doors or in a bear-resistant container, and take it to the dump frequently
- Clean your garbage containers frequently and thoroughly. Pay particular attention to storage and disposal of edible oils and greases, and use disinfectant to eliminate odours
- Share this information with your staff
- Encourage customers to use garbage containers, and to not leave scraps or garbage on the ground
- Visit [ontario.ca/bearwise](http://ontario.ca/bearwise) for more tips

To learn more about bear encounters, see our Fact Sheets "What to do if you encounter a bear" and "Be safe in bear country".

To learn more about black bears, see our Fact Sheets "Bears travel far for food" and "Bears are part of our natural heritage".

